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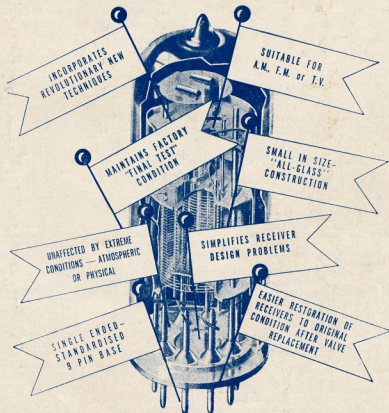
Amateur Radio

JOURNAL OF
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EDITORIAL



An Open Letter

During recent months the hobby of Amateur Radio has received a greatly increasing amount of publicity in the columns of commercial periodicals. This is very good; we heartily endorse publicity of Amateur activities for at no other time has the need been more urgent than in this era of international tension and critical change in world affairs and living standards that, from the electronic point of view, is tending to make inroads on the already reduced bandwidths for which the Amateurs have so justly earned the right to use over the past three decades.

That the interesting and worthy activities of the Amateurs should be widely known by the general public is beyond argument. But at the same time they should be factually presented and embrace the Commonwealth and its Territorial Mandates.

In this respect it has been all too evident that the Commercials see little further than one State of the

Commonwealth, thus leading the readers to presume that the entire hub of the Wireless Institute of Australia revolves round this State, and in some instances the information presented in the columns of these papers has not been accurate.

We feel safe in saying that the Editors have not intended that such an impression be created, but a wider knowledge of Amateur activities by the writers of these columns would not only be of great value to Amateur Radio generally, but would also create a worthwhile increase in the number of readers.

It is not intended that undue criticism be levelled against these commercial papers who have sufficient faith in the hobby of Amateurs to preserve space month after month to publicise their activities. At the same time we would direct attention to the one-eyed point of view expressed by their columnists in addition to misrepresenting, in many cases, the true facts.

FEDERAL EXECUTIVE.

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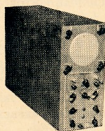
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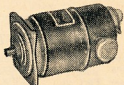
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Twin Doublet Antenna With Alternative Phasing

BY DON B. KNOCK,* VK2NO

One of the simplest yet most effective antenna systems for transmission and reception is the twisted pair doublet. Apart from those systems designed for wide frequency response in reception, the fundamental half wave doublet, as fed in the centre by a twisted pair or other low impedance line near enough to effect a reasonable match, is strictly a one-band antenna.

Although a certain amount of directivity is obtainable from such a system erected approximately one half wavelength above ground (if you don't think so, try one rotary and see), the polar diagram is really such as to render it almost omni-directional.

A twisted pair doublet is very suitable for general communication in all directions where space is limited. In most suburban plots a length of about 70 feet is available in one direction or another and so advantage may be taken of this

Just before the 1939-45 War, two G Amateurs, G2TD and G5ZJ, worked out a simple but ingenious scheme, in which two half wave twisted-pair doublets are used together for 20 metre operation, and in which the phasing can be changed at will at the operating position.

Fig. 1 shows how the two doublets are erected. Each is 0.97 of a half wave in length and supported, end to end, by an insulator as shown. As the matching delta is $4\frac{1}{2}$ " in each doublet, this amount of spacing is used for the insulation between the two antennae. 75 ohm Telcon or co-axial cable can be used, but the former is more desirable, being a balanced system.

The originators used the pre-war 80 ohm Belling Lee line and stated that with 100 feet lengths of line on 20 metres, the losses were negligible. Insulation in feedlines has improved enor-

antenna system will work best in phase, and is not at all directional out of phase. If the doublets are quite symmetrical, they will both draw the same amount of load current, but if they have been affected by the proximity of any large object, such as a house, the one nearest to the object will need to be pruned for resonance.

This antenna scheme is one of the countless systems tried through the passage of years at the writer's station and it can be recommended as a sure-fire performer on the band it is designed for. For the man with plenty of ground space, two such doublets cut for 40 or 80 metres would be well worthwhile, for the reason that at these lower frequencies the usual practice is to erect some form of radiator for omni-directivity, and to leave it at that. Usable directivity at 40 or 80 metres would certainly be worth having.

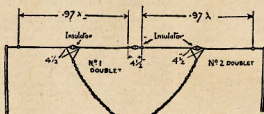
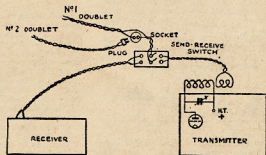


Fig. 1 (above).—The two doublet aeriels are suspended end-to-end with feeder lines of equal length.

Fig. 2 (at right).—The connection scheme to transmitter and receiver.



to erect a system which, for 20 metres, is either effective as two half waves in phase if centre fed, or as one full wave with four lobes of approximately 40 degrees if end or single wire fed in an unbroken length.

The s.w.f. method has the advantage that such an antenna can be used as a half wave on 40 metres. Another method of feeding a 67 feet length of wire for use on 20 is by twisted pair, co-ax, or other low impedance line at a point one quarter wave from one end. 300 ohm ribbon can be used successfully also.

In these instances, the antenna is a four lobe type, but can be used only on 20 metres. Four-lobe coverage as a full wave antenna on 20 and a half wave on 40 is obtainable also by the use of a tuned feeder at one end; in other words the ever-useful "Zepp."

It is apparent that with a 67 feet "top" it would be an advantage to be able to change the radiation pattern at will from the full wave to that of two half waves in phase; the latter having considerable advantage in greatly increased gain with broadside directivity.

mously since then, so that yet higher efficiency can be expected from modern material.

The twin feeders are brought into the transmitting room and connected in series. By reversing one feeder the phase is reversed in one antenna so that the polar pattern is changed.

Fig. 2 shows how this is arranged in the shack. A two-pin socket is used in series with one feeder side from one doublet and the two feeders from the other doublet are plugged in as required. It is a simple matter to remove this plug and to replace it with the pins in the opposite sockets. A d.p.d.t. switch or relay is needed for transmit/receive but the wire feeders should be played out as little as possible.

The feeder lengths from the two doublets should be as symmetrical as possible, even if a feeder has to be made longer than really necessary and then given a special "detour" in order to get them both of the same length.

Furthermore, the feeders should not be coiled in any circumstances. If one feeder is longer than the other, the

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REDUCING NOISE IN DOUBLE CONVERSION RECEIVERS

Excessive noise in double conversion receivers can be reduced by using a triode as a second mixer. All that is necessary with conventional converter tubes is to tie the screen to the plate. In the writer's case the receiver used a type 6K8 to convert from 1600 Kc. to 455 Kc. Although sensitive, the receiver was unduly noisy. The suggested modification was effective in dropping the noise to a low level without materially affecting the sensitivity.

* 43 Yanko Avenue, Waverley, Sydney.

TELEVISION MADE EASY

Part vi.—How the Receiver is Synchronised

BY KEN WALL† AND JOHN JARMAN,* VK3ADA

So we've learnt that a cathode ray tube is contained in the receiver and another, in modified form, in the camera, and that each contains a moving electron beam.

As for this synchronisation, what is it, and how is it accomplished? Now it doesn't mean making the sound coincide with the picture movements (as it does in talking pictures). In television this is automatically taken care of by the fact that sound and picture signals travel at the same speed (like all other radio waves) and must reach the receiver together.

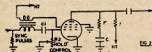
Synchronisation means making the movements of the receiver's electron beam coincide with those of the camera's scanning beam. Suppose for example the camera was shooting the triangular object in Fig. 1a. Imagine also that at the instant when the scanning beam commenced its journey, from the top left corner (x), the receiver's beam was already half way across the first line (point y). The picture would appear as in Fig. 1b. Now suppose that while the camera's beam scanned the top line, the receiver's beam reproduced a line half way down the screen. The picture would appear as in Fig. 1c.



We see therefore that the two electron beams must work "in step." How is this ensured?

Referring back to articles two and three, we find that synchronising pulses are included in the transmission. Turn up these articles now, for reference.

Last month we also learned that the receiver's beam is moved both horizontally (15,625 times per sec.) and vertically (50 times per sec.) by the "sawtooth" output of beam deflecting circuits. We also dealt with one type of circuit, in which the saw-tooth output was obtained by charging a capacitor through a resistor and rapidly discharging it by pulses from a blocking oscillator. Two valves were used, one to produce pulses and the other to discharge the capacitor. Both operations, however, can be performed by one valve, in some circuits, one of which is shown in Fig. 2.



To understand how synch. pulses control this circuit, let's first see how it works.

The screen forms the plate of a simple transformer-coupled oscillator. We are not concerned with its frequency of oscillation, but the frequency at which this oscillation is interrupted. As always, the oscillation develops a high negative bias on the control grid and C1 and R2 are made large enough to cause oscillator to "block." In other words, their values are chosen so that the electrons accumulate faster on the grid than they can escape through R2. After a short "burst" of oscillation, therefore, valve develops such a high negative bias that the plate current is cut off and oscillation stopped until sufficient electrons have escaped through R2 to permit resumption of plate current and oscillation, when process is repeated. This is called a "squegging" oscillator.

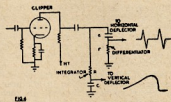
Now while plate current is cut off, the valve is non-conductive and capacitor C is charged by the h.t. voltage, which draws electrons away from the upper plate of C, through R and r. The voltage across rC therefore rises from minimum to maximum, as shown by the line "abc" in Fig. 3. When the valve resumes conductivity, C discharges by drawing electrons back to its upper plate, through the valve. Voltage across rC now falls back to minimum, shown by line "cd" in Fig. 3. Simultaneously, however, oscillation will have resumed, so process will be repeated. Voltage across rC therefore forms the saw-tooth output, required for beam deflection.

Now consider the instant "xy" (in Fig. 3). By applying, at this stage, a large positive pulse to the control grid so that valve becomes conductive sooner than normal, we can discharge C (Fig. 2) sooner than normal.

Now this is just what our synch. pulses do. R2 is first set so that the negative grid bias is just sufficient to prevent C from discharging before the synch. pulse arrives. Although all receivers don't use the same deflection circuit (multivibrators being also popular), the oscillator in use is always set at a pulse frequency lower than the deflection frequency, and the synch. signals operate, by cutting each cycle shorter, thus speeding the pulse frequency up to the required value. The "hold" control, though varying in its method of operation, has always the function of holding the deflection oscillator in step with the synch. pulses. In every receiver there are two "hold" controls (vertical and horizontal), usually at the back of the set, inaccessible to "itchy-fingered" owners.

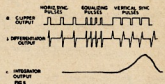
Horizontal and vertical deflectors use similar circuits, but the synch. pulses intended for one deflector must not interfere with the other, but before reading further, revise article three, and note the difference between horizontal and vertical synch. signals.

First of all, the synch. pulses must be separated from picture signals. Since these pulses represent maximum carrier amplitude, this can be easily done by a "clipping" (or "separator") which is simply a valve placed ahead of the detector and biased so heavily that only the synch. signals appear in the output. One type is shown in Fig. 4.



To control the horizontal deflector, we require short, sharp pulses, as in Fig. 5b. These are obtained by the differentiation circuit, shown in Fig. 4.

Consider what happens. The leading edge of each pulse produces a positive impulse, across r, as c charges, and the trailing edge a corresponding negative impulse, as c discharges. Note that it is the leading edge of each pulse that "triggers" the horizontal oscillator. Vertical synch. pulses have the same effect, since their leading edges are at line frequency.



Equalising pulses are at twice line frequency, but, since the oscillator (Fig. 2) can't be "triggered" until an appreciable portion of the negative charge has escaped from the grid, oscillator will only respond to alternate equalising pulses.

Now our vertical oscillator is set to respond to the large pulses, shown in Fig. 5c. These are produced by the integrator circuit, in Fig. 4, where R and C have such values that the broad vertical synch. pulses, in Fig. 5a, cause a charge to accumulate on C. Horizontal and equalising pulses have no effect here, being so short, compared with the intervals between them.

Now these equalising pulses; what are they for? Well, we've learnt that each picture is scanned in two "fields," each of 312½ lines. The first field is terminated in the middle of a line, and the second, at the end of a line. (Refer back to article three, if necessary.)

Now, supposing that normal horizontal synch. pulses were used right up to

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* A11426 L.A.C. Jarman, J. B., c/o A.R.D.U., R.A.A.F., Woomera S., South Australia.

commencement of vertical synch. pulses. Consider the interval between the last horizontal and the first vertical pulses.



At the end of the first field, it would be shorter than at the end of the second field, as shown in Fig. 6. The small charge left on the integrator, by this last pulse, has therefore less time to escape so that at the end of the first field, charge on integrator reaches its peak faster.

In every picture, therefore, the first field would be "cut short," so that interlacing would not be correct. The lines of the second field would tend to "overlap" those of the first, instead of falling between them.

To prevent this, we substitute some of the horizontal synch. pulses, both before and after each set of vertical synch. pulses, with narrow pulses, at twice line frequency, to equalise conditions for each type of field.

Now it's apparent that the deflection oscillators described can be "triggered" not only by synch. pulses, but by any interfering signal of sufficient amplitude to "penetrate" the clipper. Sure enough, one of the greatest problems in television is to prevent synchronisation from being upset by interference which, by the way, can be caused by Hams as we'll learn later.

A television project which has received much attention overseas is the development of synch. systems sufficiently selective to respond to only the orthodox signals and "ignore" interference. Many interesting circuits have resulted, mostly employing automatic frequency control, and to understand what this means, we'll study one of the simplest circuits of this type, shown in Fig. 7, used for horizontal deflection control.



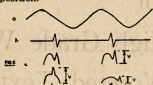
Synch. pulses excite the tuned-plate circuit of the valve V1, setting up an oscillatory sine wave current, at line frequency (15,625 c/s.). The induced secondary voltage is mixed, in the diode V2, with the pulses in Fig. 8b, which are produced by feeding back part of the deflection oscillators' saw-tooth output to the differentiator circuit, RC.

Fig. 8c shows the rectified resultant voltage which appears across R2 and is applied as bias to the grid of the deflection oscillator, which may be the type shown in Fig. 2. C2 has such a value as to filter out rapid changes in this voltage, but preserve the gradual changes required for frequency control. In most cases, V1 and V2 are combined into one duo-triode valve.

Now the pulse frequency of a blocking oscillator depends partly upon the grid bias. The more negative we make the grid, the lower the pulse frequency.

Now consider the voltage developed (Fig. 8) across R2. It is the instantan-

eous sum of the pulse and sine wave voltages, as shown by v in Fig. 8c. Bias on oscillator grid depends on this. The "hold" control can be set so that bias is correct (for required frequency) when pulse falls half way between zero and crest of sine wave, as in Fig. 8c, and any change in oscillator's output frequency will cause this pulse to change its position.



An increase in the saw-tooth frequency causes the pulse to occur sooner in the sine wave, so that the sum voltage v is increased as in Fig. 8d. The consequent increase in negative bias will "slow the oscillator down" to the required frequency.

Conversely, a decrease in saw-tooth frequency places the pulse in a later phase of the sine wave, so that sum voltage v is reduced, as in Fig. 8e, causing a decreased negative bias which "speeds oscillator up" till normal frequency is restored.

We see, therefore, that in this circuit the pulses control the frequency of the oscillator, instead of merely "triggering" it, thus permitting the use of tuned filter circuits to help reject interference.

By now, we should all be sufficiently acquainted with the general principles of television, to be ready to deal with the subject of interference. We have had to "wade" through a lot of theory, to reach this stage, but no doubt you will agree that it's been worth while.

Article eight will therefore deal with the interference problems which television will impose on the Ham. Meanwhile, keep those queries rolling in. They indicate your interest in these articles, and we are glad to receive and answer them.

AMATEUR CALL SIGNS

FOR MONTH OF NOVEMBER, 1951

ADDITIONS

New South Wales

- 2MX—M. R. Cran, 3 Dennison Hall, Marcel Ave., Randwick.
- 2PL—S. H. Savage, Portwown 1165, Wickhams Hill, Griffith.
- 2QK—E. C. Roberts, 888 Punchbowl Road, Lakemba.
- 2VE—R. J. Cramer, 31 Stafford Rd., Artsmore.
- 2AGG—A. K. Gee, 87 Burren St., Newtown.
- 2AJS—T. M. S. Spence, 63 Breims St., Grafton.
- 2ANW—D. V. Reynolds, 24 Station St., Thornleigh.
- 2AOC—A. O. Chappell, 3 Victoria Plats, Victoria Pde., Manly.
- 2ARQ—A. A. Royner, 3 Yassar Ave., Haberfield.
- 2ART—R. Hodgins, "Selroydon", Ross St., Glebrook.
- 2ATD—M. K. Finley, Dpt. Civil Aviation, Aerodrome, Tamworth.
- 2AUB—J. W. Wells, Main Rd., Ffigtree.
- 2AVA—R. S. Mackie, 88 Rowntree St., Balmain.

Victoria

- 3RM—J. Della-Pietra, 12 Rose St., Bentleigh, S.E.H.
- 3WQ—C. G. Chirnside, Latham St., Tugunamah.
- 3AFU—F. G. Noble, 43 James St., Lismore.

Queensland

- 4MJ—M. J. Platten, 7 Kingst. St., Wandall, Rockhampton.

South Australia

- 5MT—K. A. McLeod, 1 Hawkins Ave., Flinders Park.
- 5PL—J. C. Porter, Administration "P" type Flats, Wood St., Darwin, N.T.
- 5RY—J. L. Wilkins, 22 Windsor Rd., Glenunga.

Western Australia

- 6JG—J. E. Godley, 86 Castle St., Sth. Bunbury.
- 6LQ—R. E. Lander, La Bouchere St., Como.
- 6LT—N. T. Lee, 32 Grey St. (West), Albany.
- 6VK—V. J. Kinley, 43 Sayers St., Midland Junction.

Tasmania

- 7CJ—A. E. Finch, 12 Augusta Rd., New Town Hobart.

Territories

- 9AU—R. Taylor, Wewak.
- 9RT—Miss R. C. Tobin, Women's Hostel, Cuthbertson St., Port Moresby.
- 9WK—W. K. Webster, Five Mile, Port Moresby.

ALTERATIONS

New South Wales

- 2YV—Woodward Street, Parkes.
- 2MD—Flat 4, "Kilross", Gower Cres., Summer Hill.
- 2XH—78 Ernest Street, Lakemba.
- 3JL—123 Gertrude Avenue, Bankstown.
- 2WD—11 Sutherland Street, Crowsnest.
- 2AIK—8 Excelsior Road, Cronulla.
- 2ANI—c/o. Knight and Canning, Quirindi.
- 3ADK—3 Lawley House, Canberra, A.C.T.
- 2ATT—Cable Station, Norfolk Island.
- 2AWP—"Plantation", Moree.

Victoria

- 3CG—c/o. Post Office, The Basin.
- 3MK—18 Hourigan Avenue, Clayton.
- 3YN—46 Bellevue Street, Rosanna.
- 3ADK—3 Westley Avenue, Ivanhoe.
- 3AEM—Corner Hamlet & Russell Streets, Quarry Hill, Bendigo.
- 3AOG—3 Ardach Street, Escendon.

Queensland

- 4AO—249 Buckland Rd., Wavell Heights, Brisbane.
- 4DB—11 First St., Railway Estate, Townsville.
- 4NG—1 Dobbs Street, Rockhampton.
- 4EJ—189 Adelaide Street, Maryborough.
- 4AM—444 Macarthur Ave., Eagle Farm, Brisbane.
- 4XR—9 Garrick Street, Gympie.

South Australia

- 3MR—Pomona Road, Stirling West.

Western Australia

- 6AS—Rutherford Street, Manjimup.
- 6FA—Lot 426, Evelyn Street, Gosnells.
- 6KU—45 Park Street, Como.
- 6RC—Wattle Street, Osborn Park.

Tasmania

- 7MY—"Waterloo", Sandford.

Territories

- 9GW—c/o. O.T.C., 3½ Mile, Port Moresby.

DELETIONS

New South Wales

- 2FK—Cancelled; now operating under VK3AFU.
- 2IJ—Cancelled.
- 2ZS—Cancelled.
- 2ABE—Cancelled; now operating under VK9AU.
- 2ABE—Cancelled; now operating under VK3GT.
- 2APF—Cancelled.
- 2ARL—Cancelled; now operating under VK6LQ.
- 2AVS—Cancelled.

Victoria

- 3ABG—Cancelled.
- 3ADD—Cancelled.
- 3ATK—Cancelled.
- 3ARI—Cancelled; now operating under VK4RI.
- 3AVK—Cancelled; now operating under VK6VK.

Queensland

- 4BA—Cancelled.
- 4HY—Cancelled; now operating under VK1AHY.
- 4KD—Cancelled; now operating under VK5VB.
- 4LA—Cancelled.
- 4LU—Cancelled.
- 4NB—Cancelled.
- 4TR—Cancelled.
- 4YH—Cancelled; now operating under VK2ART.

South Australia

- 5KO—Cancelled.
- 5XO—Cancelled.

Western Australia

- 6CA—Cancelled.
- 6ND—Cancelled.

Territories

- 9CJ—Cancelled; now operating under VK7CJ.
- 9QK—Cancelled; now operating under VK3QK.

Manufacturers of . . .

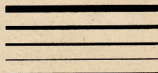
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USING RESISTORS AS R.F. LOADS

THE practice of testing an Amateur transmitter while it is coupled to an antenna is quite common, despite the fact that the P.M.G. frowns on such doings. While testing an antenna system, of course, it is necessary to be on the air, but for most transmitter tests a dummy load is desirable. Use of a dummy antenna not only obviates unnecessary QRM, but, if a known dummy load is employed, quantitative measurements of actual power output can be obtained.

The purpose of this article is to explain how to procure a good dummy load, and how to use it.

TYPES OF DUMMY LOADS

Anything which will absorb power and not act as an efficient r.f. radiator may serve as a dummy load. As we know, an electric light bulb can be used. As a matter of fact, it is possible to use a tub of salty water as a dummy load. In actual practice most Amateurs use either a light bulb or non-inductive resistors.

Electric light bulbs have one big disadvantage, and that is, their resistance varies with the amount of current passing through them. If the resistance of a dummy load is not known accurately, then it is impossible to make any accurate output measurements. However, in the case of the light bulb, Amateurs judge output by the amount of brilliance in the lamp. Unfortunately this can be most misleading, because a large change in the amount of power dissipated may be indicated by an imperceptible change in brilliance.

Non-inductive resistors are perhaps the logical choice for use as dummy loads, if only because they have fewer disadvantages than other types of loads. The cost of these units is surprisingly low, and properly handled, they will be a permanent investment. For this reason all further discussion will be restricted to the use of resistors as dummy loads.

RESISTORS IN GENERAL

Many different types of resistors are currently manufactured, but those in widespread use fall into two general categories: the composition type and the wire-wound type. Composition resistors are seldom used for dissipation of more than 2 watts. Wire-wound resistors are available with dissipation ratings up to 200 watts.

Composition types of $\frac{1}{4}$, $\frac{1}{2}$, 1 and 2 watt ratings are made in resistance values from 10 ohms to 10 megohms. For lower resistance values, these same wattage ratings can be obtained in wire-wound units only. For example, one manufacturer makes $\frac{1}{4}$ watt wire-wound units in the resistance range from 0.47 ohms to 820 ohms.

Wire-wound units can be obtained in resistance ranges from a few tenths of an ohm to 250,000 ohms, but not all wattage ratings and styles are available over this complete resistance range.

All resistors will not serve as usable dummy loads. Those which are usable are the composition type and the non-inductive wire-wound type. The criteria here is lack of inductance.

The wire-wound inductive resistor will not serve as a dummy load at radio frequencies because its relatively high inductance will not permit a current flow unless a tremendous voltage is available.

For example, assume that a regular inductive resistor has an inductance of 100 millihenrys, and a resistance of 100 ohms. An inductance of 100 millihenrys at 14 megacycles is an inductive reactance of 9,000,000 ohms! One ampere of current, representing a real power of 100 watts into this resistor, would require that 9,000,000 volts be applied to the resistor. This example assumes that the inductive resistor had zero capacitive reactance, which is not possible, but the example does serve to illustrate why it is difficult to get power into an inductive resistor at these frequencies—unless a difficult tuning job is attempted.

COMPOSITION RESISTORS

A simple equivalent circuit of a composition resistor is a capacitance C shunted by a resistor R where R is the d.c. resistance and C the total capacitance across the resistor. The equivalent circuit will not hold strictly true for all frequencies but it suffices for most generalizations.

At frequencies up to approximately 100 megacycles the inductance may be neglected (except for very low values of resistance). The total capacitance is also low, being less than one pF. (when considering composition resistors in the resistance range below 1,000 ohms). The effective capacitive reactance is high enough that it presents no problem.

In other words, composition resistors are good for use at radio frequencies. They will act as though they are a pure resistance—within limits. The main disadvantage of these units is that they are available only in low-wattage styles. This need not be too serious a drawback, as will be explained later.

WIRE-WOUND RESISTORS

The simple equivalent circuit of a wire-wound resistor is a resistor R in series with an inductance shunted by a capacitance C. This will hold true in a general way for both inductive and non-inductive units, where R is the d.c. resistance, C the total capacitance, and L the total inductance. In the case of

non-inductive units, L is the residual inductance. However, because of such factors as skin effect and dielectric loss there will be some limiting frequency where this circuit is no longer valid.

As frequency is increased the inductive reactance increases proportionately and the capacitive reactance decreases proportionately. Both of these effects are undesirable. Regular wire-wound resistors cease to be resistors in the true sense of the word at frequencies slightly above the audio range.

For radio-frequency uses it is necessary to go to the so-called non-inductive resistors. These are manufactured in such a way that the inductance is kept at a minimum. One popular scheme is the Ayrton-Perry winding in which two layers of wire are wound in opposite directions. As an example of what may be accomplished, one manufacturer states the inductance of a wire-wound unit at 66 microhenrys and the inductance of an identical value non-inductive unit at 0.6 microhenrys.

Generally speaking, non-inductive wire-wound resistors are not as good for use at radio frequencies as composition resistors, but the wide-wound units are capable of dissipating a great deal more power, and by the proper choice of unit satisfactory operation may be obtained.

POWER CONSIDERATIONS

Before discussing which resistor to use where, it might be well to consider power ratings. If you have a kilowatt transmitter, with an output of 750 watts, it might seem necessary to have a dummy load capable of dissipating this amount of power. However, this is not true, because it is possible to use resistors (both the composition type and wire-wound type) at several times their rating.

Tests have been made to determine the amount of overload which may be placed on resistors, and the following conclusions may be drawn. A resistor, or resistors of the composition or wire-wound type, may be used at 300% overload if the overload is applied for not longer than one minute, and if a fifteen minute cooling-off period is allowed between successive on periods.

Inasmuch as most tests can be conducted in a sixty-second on period, there is no need to use resistors which are capable of dissipating the full amount of power. As a matter of fact, if it is desirable to use resistors for long test periods, it may be necessary to have a safety factor involved unless adequate ventilation is provided for the resistors. That is, for long test periods, you should use resistors capable of dissipating twice the power you apply to them.

CHOOSING A RESISTOR

Now that we have a general idea of the power rating we may need, let's see what resistors we can use for various power levels.

For measurement or antenna matching work, where you usually use your v.f.o. or a grid-dip oscillator for a power source, half-watt composition

ACCURATE FREQUENCY TRANSMISSIONS FROM VK3WI

The next Accurate Frequency Transmission will take place on Thursday evening, 28th Feb, 1952, on the 7 Mc. band. Details of the operating procedure and times of operation will be found on page 8 of the January, 1952, issue of this magazine.

TWO WORTHWHILE ANTENNAE

BY G. M. BOWEN,* VK5XU

Three-Band Antenna

40, 20, AND 10 METRES

Physical Dimensions.—68 feet long, cut into two parts at 23 feet from one end, insulator inserted and a 300 ohm feed line connected, one lead to each part of the flat top.

Electrical Dimensions.

40 metres—4 wave length;

Pattern—Figure of 8.

20 metres—1 wave length;

Pattern—Four lobes.

10 metres—2 wave lengths;

Pattern—Four lobes.

Feed Line is not symmetrical to earth and therefore should be linked to the final p.a. tank at a few turns away from the earth end of the tank for unbalanced finals or to one side of the earthed point in p.p. finals and symmetrical tank circuits.

The Coupling Link may require about one-third of the number of turns in the final tank coil, but this is all in order as 300 ohms is a high impedance for power transfer.

Retuning of final tank condenser should be negligible if the antenna has been cut to resonance.

Antenna Tuning Units may be inserted between the final tank and the feed line, but the tuner should be treated as outlined for the coupling to the final tank when coupling to the feeder. Experimenting with single or double turn low impedance links here (either earthed or not) will help reduce harmonic radiation.

The idea for the antenna was obtained from "Radio News and Television" and was originally for two bands only, but by accident and then by design, and the drawing of impedance curves and checking with a s.w. lamp indicator, VK5MD and I successfully used it on the three bands.

Since then many others have erected the antenna either using 300 ohm ribbon or open wire lines and all report worthwhile success for DX operation. The power does get into the antenna for a minimum of effort.

I believe now, that somebody else has erected a similar arrangement with double the dimensions so that four bands can be used—30, 40, 20 and 10. Country Hams could possibly try this and report on it. My wife objects to erecting a pole in the front lawn!!

Two-Band Antenna

50 AND 144 Mc.

Reading the May issue of "QST" "World Above 50 Mc." on page 48, I came across the information that the Oxford County of Amateur Radio Association was using a single co-axial antenna for 6 and 2 metre operation. Their antenna had the dimensions of 55' for both spike and skirt, thus working as a halfwave antenna on 50 Mc. and three halfwaves on 144 Mc.

* 73 Portrush Rd., Toorak Gardens, S.A.

The idea appealed and already having a co-axial antenna for 2 metres with skirt and spike 18½' long, I decided that by adding 37 inches to the quarterwave spike I would obtain a full wave radiator without altering the characteristics for 2 metre operation.

Actually I pushed a 55½' length of ½" dural rod over the spike and bolted it securely by putting ½" Whitworth brass bolts (tapped holes) through both the 18½' and 55½' pieces of metal rod and tubing. The skirt remained unaltered.

On 2 metres no change in the coupling was required, indicating that the extra halfwave added had not altered the radiator electrically.

On 6 metres the coupling had to be reduced so that with an 8-turn final tank coil and a 1-turn coupling loop to the co-axial cable (75 ohm), the loop was only about quarter way in mesh. There was little retuning of the final necessary, indicating a close enough antenna resonance and a standing wave ratio which was low enough to be tolerated.

Theoretically, the skirt should have been lengthened to 55½' to make a perfect match on 6 metres, and I can answer all the objections to using the 18½' skirt, but the fact is it works and works well on both bands and my curiosity and pocket is well satisfied!

— . . . —

HOW TO KILL AN ORGANISATION

These six points have circulated around the world for years and are still worth pasting in your hat.

1. Don't come to meetings.
2. If you do attend a meeting, find fault with the officers, the other members, and the organisation's policy.
3. Never accept office because it is easier to criticise than to do things, but get sore if you are not appointed.
4. If asked by the Chairman to give an opinion on some important matter, tell him that you have nothing to say. After the meeting however tell everyone how you think things ought to be done.
5. Do nothing more than is absolutely necessary, but when other members roll up their sleeves and willingly use their ability to help matters along, then howl that the organisation is run by a clique.
6. Whatever you do don't bother to get any new members, always let the other fellow do that.

— . . . —

FREQUENCY ALLOCATIONS

The following is a list of the bands available for use by the Amateur Service in Australia followed by the types of emission allowed on those bands.

3.5 to 3.8 Mc.	—A1, 3, 3a, 6F3.
7.0 to 7.2 Mc.	—A1, 3, 3a, 6F3.
14.0 to 14.4 Mc.	—A1, 3, 3a, 6F3.
26.96 to 27.23 Mc.	—A1, 3, F.M.
28.0 to 30.0 Mc.	—A1, 3, 3a, 6F3.
50 to 54.0 Mc.	—A1, 2, 3, F.M.
144 to 148 Mc.	—A1, 1, 2, 3, F.M., Pulse.
288 to 296 Mc.	—A1, 1, 2, 3, F.M., Pulse.
576 to 585 Mc.	—A1, 1, 2, 3, F.M., Pulse.
1215 to 1300 Mc.	—A1, 1, 2, 3, F.M., Pulse.
2300 to 2450 Mc.	—A1, 1, 2, 3, F.M., Pulse.
3650 to 3850 Mc.	—A1, 1, 2, 3, F.M., Pulse.
10000 to 10500 Mc.	—A1, 1, 2, 3, F.M., Pulse.
21000 to 22000 Mc.	—A1, 1, 2, 3, F.M., Pulse.
30000 Mc. and higher.	—A1, 1, 2, 3, F.M., Pulse.

resistors are adequate, power-wise. For impedance values of 50, 75 or 100 ohms single unit ½ watt resistors are good up through 150 megacycles. For 300 ohm work, a single 300 ohm resistor is not satisfactory, as the effective capacitive reactance starts to show up at 100 megacycles. However, two 150 ohm ½ watt resistors in series are satisfactory up to 150 megacycles.

No tests were made on resistors of more than 300 ohms resistance, but it is obvious that the capacitive reactance will be a factor to be considered, so that higher and higher values of resistance will be "pure resistance" only for lower and lower frequencies.

Dummy loads capable of handling sixty watts (the output of a 100 watt input transmitter) can be made by employing 2 watt composition resistors. Ten 2 watt resistors will dissipate twenty watts, which, with our factor of three employed, allow their use as 60 watt loads. Obviously, these resistors can be placed either in series or in parallel, but tests indicate that it is desirable to make these loads as follows: For a 50 ohm load use ten 500 ohm resistors in parallel. For a 75 ohm load, use ten 750 ohm resistors in parallel. For a 300 ohm load, use ten 30 ohm resistors in series. All of these combinations give good results as dummy loads up to 150 megacycles.

The proper way to parallel resistors is to make two circular discs of copper or brass, and drill ten holes, equally spaced, around the edge of each disc. Mount the resistors between the discs and solder each lead to the disc. If desired, a coaxial fitting may be mounted, or broad straps may be soldered to the two discs.

If you use a 300 ohm load, the resistors should be in series. The best way to do this is to make two sets of five resistors, each set in a straight line, then connect one end of the two sets together. This brings the two leads of the composite resistor adjacent to each other. All leads in the series string should be as short as possible.

Dummy loads capable of handling 300 watts can be made from ten 10-watt non-inductive resistors. For a 50 ohm load, use ten 500 ohm resistors in parallel. For a 75 ohm load use ten 750 ohm resistors in parallel. For a 300 ohm load, use ten 3,000 ohm resistors in parallel. All these combinations are usable to 150 megacycles if the units are paralleled as described before.

USING A DUMMY LOAD

There are a few precautions to be observed when connecting a dummy load to a source of power. One, make as direct a connection as possible, and use low inductance leads, such as copper straps.

Two, keep the dummy load away from metallic objects, in order to avoid an unbalance to ground.

Three, keep the dummy load well in the clear so that adequate air circulation is assured.

The information just given on non-inductive resistors is intended as a general guide to the selection of such resistors. Rigorous and complete tests are quite difficult to make, especially when a large variety of resistors is considered. —"Lighthouse Larry," Jan.-Feb., 1951, "Ham News."

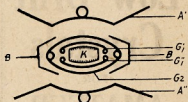
THE QQE06/40

QUITE considerable interest has been shown in the new Philips double tetrode, the QQE06/40, and the object of writing this article is to supply a few more details than are generally known about this tube.

Firstly, the filaments can be operated from either 6.3 volts at 1.8 amp. or 12.6 volts at 0.9 amp.; the cathode, which is indirectly heated, is common to both tetrodes; more will be said about this later.

The d.c. anode voltage is 600 volts maximum at frequencies below 250 Mc., 400 volts maximum at frequencies above 300 Mc. and maximum of 500 volts in the intermediate frequency range; the screen grid voltage is 250 volts.

The dissipation of each anode may amount to 20 w. and that of the screen grid is 7 w., so that in a well-designed rig the plate input can be 68 w. on phase or 100 w. or more on c.w.



If you take a look at the drawing of the horizontal cross-section (Fig. 1), you will see that the screen grid (G2) is, like the cathode, common to both sections. This screen grid is made of windings fixed to two supporting rods. This construction avoids the necessity of separate leads for the two halves, and thus also completely eliminates the self-induction of these leads.

Since the beam-plates prevent them from following long trajectories, all the electrons have about the same and the shortest possible transit time. Without such a measure there would be a difference in transit time, and at very high frequencies these differences would adversely affect the efficiency of the valve.

Reverting to the cathode, if you look again at Fig. 1 you will see that this is in the form of a roughly rectangular tube. Only the long, slightly convex sides of this tube are coated with an emitting material, so that really the tube has two cathodes interconnected by the shorter sides of the rectangular body. The self-induction of these short and wide "connecting strips" connected in parallel is so small that even at frequencies of 400 Mc. the effect of self-induction in the cathode interconnections is quite negligible.

The resistance of this connection is likewise very small, even at high frequencies, due partly to the fact that the working temperature of the cathode lies above the Curie point of nickel, so that permeability is 1, and consequently there is but little skin effect. The two control grids are curved so that when they expand the distance between the grid and cathode is not reduced, and thus there is no risk of short-circuiting.

These control grids are made of molybdenum wire plated with a layer

of gold. This plating reduces the resistance at high frequencies, and minimises the risk of thermionic emission from the grid.

An outstanding property of this tube is its inability to oscillate unless feedback is purposely applied externally.

This very desirable effect is brought about by virtue of the fact that it has its own neutralising capacitors actually built in. These are in the form of a short wire welded on to the extended support of each control grid and extended adjacent to the opposite anode. The capacitance is practically equal to that between an anode and its corresponding control grid. In this way, a neutralisation is obtained which is entirely independent of the frequency at which the tube is working.

The tube as a whole is very rugged, the glass envelope is made of hard glass which is able to stand high temperatures. The anodes protrude from the top of this, all the other electrodes being connected to seven rods of molybdenum which are fused into a base of "Sintered" glass.

There is no doubt that this tube is really good and ideal for the Amateur; it has an efficiency of 72% on a wavelength of 5 metres, and above that probably has still even greater efficiency.

Just in passing, I will mention the fact that this tube is widely publicised in America, where the type number is AX9903, which is the same tube and manufactured in Holland.

[The above article is reprinted from "Radio ZS," May, 1951.]

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- * British Q-Max Chassis Cutters: $\frac{3}{8}$ " round, 24/10; $\frac{1}{2}$ " round std. valve hole, 32/3; $\frac{1}{4}$ " round, 34/9; 1" square, 48/11.
- * A. & R. 230v./6.3v. 2a. Filament Transformers 25/4 ea.
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- * American Hewlett-Packard 55-400 Mc. V.H.F. Wavemeters (few only available) £6/10/-
- * Bulgin MP7, MP8 and MP9 Red, Black, and White Earthing Push Buttons 4/7 ea.
- * Bulgin S451 All Moulded Vertical Lever Snap Switch, Panel Mtg., 3/10 ea.
- * Bulgin S581 6v. Thermal Flasher Units 8/5 ea.
- * Bulgin Push Pull "Press-Key" Switches—S415 D.P.D.T. 8/- ea.
- * Bulgin MBC8 Min. B.C. Lamp Holders (Suit NE51 Neon) 1/7 ea.
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- * Teletron ST27G Min. 7-Pin Valve Sockets 11½d. ea.
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- * Teletron ST38G Standard Octal Valve Socket 9d. ea.
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Clamper Tube Controlled Carrier for Screen Grid Finals

Controlled carrier is, of course, no new thing. In the past many methods have been devised to effectively control the carrier via the audio intensity with varying success. These methods ranged from voice-operated relays to "class B electronic control," each seeming to have some snag or other, making it unsuitable for Ham work.

Quite recently, however, a good system became available to Hams (April "QST"), but it is specifically of the screen modulator variety which, it is felt, has no ready appeal to Hams. We generally realise that a 50 watt plate modulator, with its attendant higher efficiency, isn't a huge order (and more than sufficient for the full licence requirements of 100 watts).

It was thought necessary, therefore, to develop a method of carrier control suitable for plate modulated finals preferably of the tetrode variety, as this seems the more popular these days. The "clamper" tube effectively controls the screen volts of a tetrode final by means of audio-derived excitation.

The advantages of controlled carrier are well worth while provided the method of achieving it isn't complex; briefly, these advantages are:—

- (a) Economy of tube life and power.
- (b) Virtually full modulation for any audio level.
- (c) Ability to exceed ratings with some justification.
- (d) Reduction in heterodyne interferences.

The method finally arrived at has all these advantages and more; it is cheap, simple, foolproof with no fussy adjustments for guaranteed success. One has only to build it as a separate little unit and tie it to the existing rig via a short cable.

It uses the "clamper" tube principle, but instead of letting the clamper receive its negative grid supply from class C bias, we now use rectified audio in a similar manner so that when no audio exists the clamper holds the screen voltage of the final amplifier well down, and low r.f. output results. The moment audio enters the mike, the clamper draws less current through the final's screen-dropping resistor and the screen voltage rises, r.f. output rising in unison.

A variable sensitivity control is provided (an ordinary volume control with switch to cut out carrier control for tuning transmitter and loading). Maximum control approx. minus 16 db.

More control than this figure is not possible with the scheme—nor is it really desirable. Recent experiments at ZS2LT have shown that circuit noise, hum and general room noises can finally modulate a carrier when this carrier is reduced by 20 db or so. This gives rise to the disconcerting effect of speech-noise, when received under a.v.c. conditions at the far end, hence it is not truly advantageous to have greater control than this, without changes in receiving technique.

Briefly following the circuit, we tap off some audio from the plate of the second speech amplifier; this audio is fed via the sensitivity control to the 6R7, whose plate circuit feeds an ordinary "plate to push-pull grids" transformer. The secondary winding feeds the diodes of the 6R7, and the centre tap provides negative d.c. to the grid of the 6Y6 (or 6L6) clamper tube.

The plate and screen of the 6Y6 are commoned and connected directly to the screen of the r.f. final amplifier (this screen being conventionally fed via a suitable dropping resistor to the modulated h.t. supply).

It will be noticed that the diode returns to the cathode of the 6R7 in order that the grid of the 6Y6 be slightly positive for the silences, thereby taking advantage of the heavier drain (more effective "hold down" of the r.f. final's screen volts) that the 6Y6 causes this way.

In speech type audio a tremendous proportion of transmission time is actually silent; these silences are "cool-off" or rest periods for the final when the carrier is controlled—this ensures a long and useful life (813s are no longer a few bob each).

A comparative test revealed that an 815 at 75 watts input with controlled carrier runs appreciably cooler than it normally does at 50 watts without control.

There are no snags to the construction or operation of the unit, and the few shillings spent on it is well worth while—you probably have it all in the junk box, anyway.

Operating is simple; one merely advances the sensitivity control sufficiently

until a normal voice power kicks the plate meter from a low reading to its usual reading.

So much interest has been provided by this high-efficiency gadget, and since the thing performs extremely well, it is heartily recommended to the many 807s and 813s, etc., final amplifier users of our Ham fraternity.

[Note from Technical Editor. It should be realised that as the clamper tube is controlled exclusively by audio there is no protection to the final in the event of loss by excitation. This protection may be provided by other means, such as an excitation-controlled clamper tube, should it be necessary.]

—By ZS2LT, reprinted from "Radio ZS," May, 1951.

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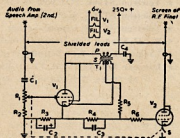
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- C3—0.25 uF. paper.
- C4—0.5 uF. or better (600 v.).
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- R2—15,000 ohm (½ watt).
- R3—1,000 ohm (2 watts).
- R4—0.25 meg. (½ watt).
- R5—5,000 ohm (½ watt).
- R6—50,000 ohm (½ watt).
- T1—Plate to p.p. grids transformer.
- V1—6R7.
- V2—6Y6 (or 6L6).

Compiled by J. K. RIDGWAY, VK3CR.

50 Mc. News: The Ross Hull Contest got away to a good start with the 50 Mc. band in fine fettle. This year has shown a return to the conditions prevailing some three years ago with the band being open Interstate for long periods, sometimes for the whole day.

Outstanding amongst the breaks have been those to New Zealand, with signals romping in those locals for hours at a time. Even those who normally are unable to work ZL unless signals are very strong, have been making many contacts in that direction.

It has now been learned that the first VK2 at
to be worked by VK9XX was VK3UI at
Tatura. Russ and Alan contacted on 1st Decem-
ber 1987 on c.w. and worked 1950 wpm on
1800 kHz. Another contact was made at 2145 with 3UI
on phone and 9XX on c.w. Signals varied 57-8.
JAPP also worked 9XX on phone at 2155-2000
kHz. Russ and Alan had previously thought that
since these two VKs were made, but to
date the only VK2s to make the grade have
been 2WJ and 2WH. The ZLs had been heard
on 1800 kHz but activity in the band
opened to VK2. So far the stations from VK8
have been unheard in Sydney, in fact some
begin to doubt whether they are really active

Contacts with VK4 have been very much more frequent this year than for some time and during the last few days of 1951 the band was open each morning to the northern State.

At time of writing the band is open to VK4 with 2AC working 4NG. Leo has been popping up on six a few times of late and collecting some of the DX. 2ABC has been very active during the contest and has a pretty large score. Fred insists that he isn't taking the contest seriously, that's why he may be heard calling DX almost any time one turns on a Rx!

5BC and his brother 5HD should enter into the VK2 notes this month as they must surely have more powerful signals in Sydney than they have in VK5, they just couldn't be any stronger!

The QRM position on the lowest 100 Kc. of the band gets worse. 2HL has joined the fray along with 2AH, 2ABC, 2VW and 2JX so that during a DX opening one may as well skip that part of the band as far as the DX stations are concerned. One VK5 remarked to 2ANF that the latter's frequency high up in the band was quite a good one well clear of the QRM. This question was asked in 50-28. Upon being told that there were stations operating up to 51 Mc. in VK3 the said VK5 went off to tune what he termed "the high frequency end of the band."

2HO has been having many troubles with "parasites" which he is still trying to cure; try some D.D.T. Roy. 2QZ, who shortly travels northwards, has been amongst the DX, his holidays happily coinciding with the DX season. 2JW has a special private funnel through which the ZLs just "pour in" and John has been making hay while the ZL sunshines. How many ZLs have you worked this year John?

in the country districts there has been much activity. 2WH has been chasing them up followed by his near neighbour 2AMV. During a short skip opening 2PN was heard in Sydney and to judge by the number of stations calling him, 2AMR of Dubbo must be doing very well. During all this feverish activity on six, 2ADT is silent, being away on holidays on the North Coast. What a feast you have missed Jack.

144 Mc. News: On the 15th December, at 1830, 2AH made the first two-way contact with ZL on 144 Mc. His contact with ZL3AR lasted for some seven minutes at S7 both ways. At the time, 50 Mc. was wide open to ZL and had been for some hours, the 144 Mc. contact being made during what appears to have been the peak of the 50 Mc. opening. 2AH was using 100 watts to an 829 and a 32 element beam.

Allan was heard by two stations in ZL and the number of the Sydney chaps heard the ZL. The contact has created wide interest and attempts at 144 Mc. contacts when the band opens so ZL have been frequent since then. A report is to hand that ZL3AR was using 250 watts on a pair of 828s and a fairly large array. It would thus appear as though high power plus a high gain beam is necessary for the best results.

On 5th December, 2GU and 2ANF made the first Sydney to Canberra contact on 144 Mc. Signals were 85 from Sydney and S6 from Canberra. 2MQ followed in and a second contact was made. 2GU was running 70 watts to an 89B and a 12 element beam; 2ANF 18 watts to an 82 and a three over three; and 2MQ 15 watts to an 82B with a 16 element beam. Since then 2GU has not been heard and there is at the moment no news as to whether he is still active on 144 Mc.

The same evening a few minutes after the Canberra contact, 2MQ made the first Sydney-Muswellbrook contact with 2ANU with signals strong enough to be heard by the Sydney station. A number of other Sydney stations also made the contact with Ken who is running fairly low power from a 32v. house lighting set. A few days later, conditions being kind once again, I made the first contact with Sydney contacts including 2IO who was and is still using a dipole between the roof and ceiling! Albert has a beautiful location for the north but no- body thought he would be able to work as far as 2ANU with his buried antenna!

On the 9th, 2JW went portable with 144 gear on the top of Mt. Canoblas near Orange and made contact with 2ANE Norm. Also heard a number of other Sydney stations at good strength but was unable to raise them. The Tx intended using refused to work so he fell back to the small job running 2 1/2 watts! Later in the month Norm made a second trip but once again the Tx didn't behave too well. Norm has now cleared up the troubles and has sufficient grid drive so the next trip should be a great success.

2NS has his new 829 Tx going and puts in a good signal to the Sydney area using about 70 watts. 2WH has made two-way contact with 2TA in Young, Alan having acquired a P38 Rx which fills the gap in his 2 mx gear. 2WH threatens to excite his 829 and should be quite a fair signal in Sydney when he does so.

In Sydney, 2JAGG is a new station. Alec, who is located at Newtown, is using an 832 final, external controlled and putting out a very good signal. 2JY has shifted from his spot on 147.0 MC, and moved to the low end of the band, 144.5 to quote Jim—the frequency, however, is almost spot on 144.0 in the country zone! Apart from this accidental excursion the only station not observing gentlemen's agreement is 2JY, who still remains on approx. 144.0 and 2GA have not been very active of late but Alec has been able to make contact with 2ABZ much to Bill's delight.

576 Mc. News: Very little to report on activities on this band. 2YR has shown up complete with ASB7 Rx which from reports comes up to expectations. 2XX also has his ASB7 Rx going and is very pleased with the performance of same. 2AJZ has been getting adverse signal reports of late, but has been too busy with xtal controlled converters for 144 Mc. to do anything about it.—VK2ANF.

Dates to remember: February 10, Field Day No. 4; and February 20, the Group meeting.

The following Melbourne stations are expected to be operating from portable locations: 3ABA, 3FO, 3ACH, 3ADU, 3AJI and 3JO, while country stations 3AKE, 3ZL, 3UI, and 3ZD may also be at portable locations. Any others who can operate portable are urged to do so and help make this Field Day an outstanding success.

Arrangements for the lecture on February 20 have not been finalised but will be publicised by means of 3WI broadcasts.

Attendance at the December meeting was below the usual standard, but those present spent a very full and interesting evening. Once again, the speaker, Mr. W. J. Wersing, through his date, and, in addition, to present, but in a most interesting Harry Chapman 3GU and Bert Semmens 3GU explained the manner in which they had had the TX modified their TX1413A sets for operation on 144 Mc. 3GU uses the rear of the TX1413A set, and only the TX drive p. 7183 which in turn drives an 834. 3GS uses the whole works, even the TX to the push button control of frequencies for the TX. His receiving set-up is unusual, too, in that it is set up to receive signals in the 144 Mc. band controlled by received signals around 1410 Mc. A ZB Homing Adaptor has been altered to a converter which converts 144 Mc. signals to

110 Mc. for feeding into the TR1143A Rx. Since the oscillator is about 30 Mc. it is fairly simple to make stable, the biggest difficulty being to mix the 30 Mc. and 144 Mc. signals. Bert tried many methods and eventually settled for cathode injection.

Only one dog for the 576 Mc. Contest was received, and the prize of a pair of 34Gs goes to Geoff SAUX. However, as there appears to be some confusion as to whether this prize should have been awarded for a previous contest, it was decided to withhold presentation until past records of the Group have been consulted and the position clarified. The contest achieved quite a degree of success in that it stirred up some activity on 576 Mc.

Excellent conditions prevailed on 50 Mc. for the Ross Hull V.H.F. Memorial Contest, the band being wide open nearly every day and many good contacts were made with both Interstate and ZL stations.

On 6th January, VK2FK attempted to work through to Melbourne from One Tree Hill at Ararat and although his signals were heard at Melbourne, he was unable to hear any of our calls, but had a scratchy contact with 3ZL, of Ballarat. In Melbourne for a few days prior to returning home he operated portable at Yarrambat and worked several Melbourne stations. He also visited Big Hill at Stawell and reports that both this and One Tree Hill at Ararat offer excellent possibilities for v.h.f. working. He hopes to try 144 Mc. again during his holidays next year.

JCR has made his long promised debut on 144 Mc. with 43 watts to an QQE05/40 and a four over four beam.

New calls on the band are 3IP at Ferntree Gully and 3AAP. 3UG at Rye is now putting in a much stronger signal with two four-element "Lenfo" beams stacked. 3RR has shifted his domicile to Horsham. Dick is now active on 6 and 2 mx and is also working 40 mx and looking for contacts with his old v.h.f. cronies.

On-the-air discussions between 3UI, 3APF and 3CI have resulted in the election of 3UI as v.h.f. correspondent for the zone and Alan has promised to keep the magazine informed of the doings of the boys up his way. 3EN has had some xtal trouble and is now on a new frequency, and 3CI at Nagambie with increased power is working more of the Melbourne stations.

Finally, another reminder of the Field Day Contest. Rules for this contest are the same as those for the previous contest held early in 1951 and were printed in these notes in the February and March issues of that year. Closing date for logs this time is April 30, 1952, and I urge you to make your time W7D stations active last year, 13 logs received was a very poor response indeed—please don't let it happen again.

Congratulations to VK3GL/VK6BO who made two-way contact on 144 Mc. at 1640 C.S.T. on 30th December, 1951. Most 50 Mc. men in VK heard Clem and Rolo in QSO and change to 144 and the results that occurred. Good work both and let's hope it will be repeated.

Other highlights of December, 1951, was on the 29th when VK9XK came through and was worked by all on the band at the time. On the 31st, ZK2AA reports hearing VK5BC.

Conditions have been very good during the Ross Hull Contest with most consistent signals being VK4 and VK6, conspicuous by their absence were the Darwin boys which we all feel sure would have been heard if only they were active. 5BC is leading in contacts in the Ross Hull Contest and looks like winning for VK4 again this year. Hughie has put up a good effort and no one will deny him the rights to it if he does win; he even sleeps with the Ross running.

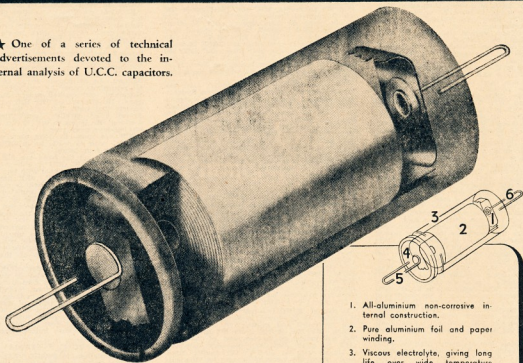
A lot of work is being done on 144 and 288 Mc. gear and several xtal controlled Tx's are on 288. Notable is the line-up of 5MO using seven tubes. 5JD is now getting codes of drive to his 832 on 144 by using an RL7 dblr. 5QF is now convinced that the RL7 is a good tube. Reg was scratching for 288 Mc. drive when 5BK broke through on 144. 5AX/5YF, of Gawler have had over 70 QSOs on 144; good work hope to hear you both in the Intrastrate Contest. SZL has been operating portable from North Guelph.

Recently 5BC and 5MA have been audible at night. At times 5BC was like a local 5MT as it came closer to the receiver. The DXer also heard 5MA and worked the DX OK. He called also. A howler heard after VK5JD had called CQ on 30 Mc. was the ZL who was calling ZL3JD. The feed did not hear him so he was putting out a VCA beacon on 30 Mc. which was of interest to the distances in nautical miles shown between Auckland concerned with the following:-
Sydney-Auckland 1681 miles; and VK5KL
VWKBQ, Parafied 115 miles.

Call	Certificate Number		Additional Countries
VK2WJ	13	2	3
VK4RY	2	2	2
VK2VW	9	1	2
VK5LC	1	3	1
VK5DQ	3	4	1
VK4HR	5	5	1
VK3PG	6	7	1
VK3RR	10	12	1
VK3JT	12	14	1
VK2AZ	14	8	1
VK3KA	12	14	1
VK3GM	14	8	1
VK3ACL	14	8	1
VK2ABC	8		

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DX NOTES BY VK4QL*

My apologies to those who sent me material for last month's issue, but we can blame the P.M.G.'s Dept. for the disappearance of the notes.

This month my own activities have been a little restricted and, it seems, so have a few of the other DXers. Static has again cramped the activities of those who like to get the lower frequency bands a flutter. One disturbing note is the deliberate interference by many during the course of a QSO with a hard-to-get DX station. During the QSO, stations have been zero beating one of the two stations in contact and, to help matters, then getting their DX on the "Bustle" and "W" was observed. 9XXK had ZD1SD come back to VK3XK?? and W4TO broke in and took the QSO away from Russia. I had a similar experience with VQ5CW, whilst I was QSO him, listening to W4HQN break in and carry on a pseudo QSO with the VQ5 on his frequency giving R to the VQ5 whilst he was still transmitting to me.

The band survey shows varying fortunes. Times shown as GMT and DX worked as *2-3.5 Mc.: No news from anybody so guess the QRM too severe. Myself, I could not hear anything whenever on this band.

7 Mc.: At this QTH early in the month, the early mornings produced good results, enabling me to increase my country list to 49, which were of no use at any time. The best of the month were ZC4XP*, FY2AUX*, KH6QY/KC6*.

*FIL/LI. F. T. Hine, No. 10 (G.R.) Squadron, R.A.A.F., Townsville, Queensland.

DX C.C. LISTING

PHONE

Call	No. Ctr.	Call	No. Ctr.
VK3EE	- 10 158	VK4WF	- 16 121
VK3JD	- 1 155	VK4P	- 8 114
VK3BD	- 9 163	VK3AWW	- 13 116
VK4HR	- 12 153	VK4FJ	- 21 109
VK6RU	- 2 148	VK4DO	- 20 104
VK6KW	- 4 145	VK2ADT	- 13 102
VK4KS	- 9 143	VK3JL	- 19 101
VK3LN	- 11 132	VK6PJ	- 19 101
VK6DD	- 6 126	VK3HG	- 5 100
VK3JL	- 12 125	VK3GG	- 18 100
VK4WJ	- 17 122		

C.W.

Call	No. Ctr.	Call	No. Ctr.
VK3BZ	- 6 200	VK3JE	- 21 124
VK3FH	- 15 192	VK3JD	- 27 123
VK4EL	- 9 163	VK3EK	- 3 122
VK4HR	- 8 161	VK5FH	- 31 119
VK3EO	- 2 162	VK3JL	- 25 118
VK3CN	- 1 151	VK3JUM	- 12 116
VK6SA	- 28 150	VK4DA	- 7 113
VK3VW	- 4 143	VK3PL	- 38 113
VK3QL	- 5 142	VK7LZ	- 17 112
VK3KB	- 10 138	VK4RC	- 13 107
VK6RU	- 18 135	VK3YL	- 29 106
VK3GW	- 16 132	VK3VJ	- 34 103
VK3JL	- 12 125	VK3HT	- 17 112
VK3CX	- 25 132	VK3APA	- 14 101
VK4FJ	- 29 129	VK3NC	- 19 101
VK3BD	- 9 128	VK3BO	- 26 100
VK3XK	- 30 128	VK7RK	- 22 100
VK4QL	- 36 128	VK7LJ	- 24 100
VK4RI	- 12 125	VK3AEZ	- 35 100
VK4DO	- 20 125		

OPEN

Call	No. Ctr.	Call	No. Ctr.
VK3BZ	- 4 213	VK3VQ	- 46 116
VK4HR	- 7 194	VK3AWW	- 45 115
VK4EL	- 8 191	VK3AZA	- 43 111
VK3JE	- 12 180	VK2ADT	- 14 111
VK3HG	- 3 171	VK3PG	- 47 113
VK3JD	- 2 170	VK3JL	- 21 110
VK3XK	- 1 167	VK4RC	- 21 110
VK6KW	- 13 165	VK3BZ	- 24 110
VK4EL	- 10 163	VK3CZ	- 25 108
VK4FJ	- 22 158	VK3YL	- 37 106
VK4DO	- 15 151	VK3AWN	- 36 105
VK4KS	- 24 149	VK3TVN	- 18 104
VK3PJ	- 28 143	VK4TL	- 27 104
VK3MC	- 5 139	VK6PJ	- 44 104
VK3OP	- 19 137	VK6PW	- 50 104
VK3JL	- 12 125	VK3HT	- 17 103
VK3LN	- 29 135	VK7KB	- 30 103
VK4ADE	- 28 133	VK3TJ	- 37 103
VK3AHA	- 9 128	VK3HO	- 28 103
VK3BD	- 9 128	VK3XK	- 42 103
VK3AHM	- 20 125	VK7RK	- 31 102
VK3NS	- 16 123	VK4TY	- 35 102
VK4EL	- 11 125	VK3VW	- 36 102
VK3JL	- 33 119	VK2ACX	- 6 100
VK7LZ	- 23 116	VK2TG	- 39 100

7RK found the noise too high and signals lacking. Haven't heard 5JE to see how he fared over the South.

14 Mc.: Some good DX has appeared on this band, but was the usual story, that no pattern was observed and you had to be around at the right time. The station that caused the most interest was probably VQ3F, which most of the VKs interested seemed to work on c.w. and phone. On 23rd Dec. at 2330 and 2305, good signals were heard from Z53K and EA0AB respectively. Rather a strange time for them. 9XXK got around some time after, once to the tune of CE3DZ, CE4AD, ZD2DCP*, Q9RAG*, PQ8AK*, VQ5CW* (Box 88 Jinja), EX1PY*, VY5AB*, VQ6JH*, F136*, PQ5RE*, VQ6CB*, T12TG*, T12RC*, KH6QY/KC6*, FR7ZA*, 4UJ3 (Kashmir), VQ1RF, EA0AB, ZD1SD, RUSS had 92 when the above was received and was trying to get his 100 before the end of the year. 7RK can hear a few Africans in the mornings but cannot hear the Ws to them. It's fairly easy here Ray, which does not help you with your Zone 35 does it? Ray finds very little on the bands in the afternoon, evening, proving the usual Asians. But at 1200, the Europeans appear and are worked with ease. Ray lists PQ8AE, F136*, 4X1D, Z4R3, 4R3A, 4R3B, 4R3C, KV4AA*, FK58AA*, Z56A* and would like to see what the VK6 gang are doing. So would we. Ray, but my appeals have fallen on deaf ears over that way.

4BG had his activities cramped for the first half of the month due to a power leak, but managed three new ones as Xmas box in LA, CR9 and GL. Ron lists Q95BZ, VQ4BY, FK8AE, VQ3CB, CH9AF*, FK8VA, M1DD, VQ3H. 4PBC was one who caught VQ1RF to give him his 100th country on phone. 4QL's listing: CE7ZQ*, H3L3*, KTLIM (U.S. Legation Tangier), K4AAC*, K4AF, VQ3H, 4P3A, K4AF, (Box 206, Bissau), M1DD, M13SL*, STG1R* (via R.S.G.B.), KH6QY/KC6, FN8AD*, VQ1RF*, EA0AB, EA0AC, TQ8ER, VQ5CW*, FR7ZA*, Z53K, FR7AJ*. The new ones in this list bring the total to 173. 4EL has not been able to maintain his daily sked with C32A. 4CX did arrive to give himself this month and lifted his total to 163 with things like FR7ZA*, FB8B, VQ4TW, OQ9Y, 4Y1AJ (wonder if OK), 4Y1AJ, VQ1RF, MP4BBD, MP4KAE, STG1L, K4GAF, FBK/AR, CR7CN. The ones that got away were FL8BC, EA0AB, Z4R3, 4R3A, 4R3B, 4R3C, EK1AD, ZD6DO. 5YF heard Z53N, which will have the gang on their ears. 2AMB also worked three new ones in VQ1, VQ3 and Y13 in addition to SU1GE.

28 Mc.: This band, as far as I am aware, has produced nothing of note, except frequent short skip.

QSLs of interest are not numerous. 9XXK received FYTQY, and TRK FK8AL, V8PCP and FK5AA. 4QL had 7 Mc. W.A.C. confirmed with the receipt of LU7CD. Others received were ET3A, TP3AN, Z4GAF, FR6AD, FK8AL, ZC4OR, EA0AP, EA0BF and Z4AD. A QSL from FT4R indicates he operates or has operated TM46P and 3A2AC, his home call being W8PQ.

The gen section produces another interesting item. Z44PK will be with an expedition to the Isles of Rivella Gligedo, and expects to operate for about 30 days, so another "hunt" looks like being on. Each QSL will be given a number and it will be essential for you to quote that number for a confirmation. Guess he is prepared for the pseudo QSOs that some guys have.

QSLs have been received by some from F8LAA, so that's good news after the doubt that existed on his legit.

WOELA, who made an attempt to get on from VSS, eventually obtained permission but too late. However, now he has the clearance, is going to make another attempt to get to VSS. The old "DX holiday" W1FH has now amassed the total of 245 countries worked. Once upon a time we doubted the existence of there being 200 workable. Two stations, which are legit, and worth watching for are FL8BC and K1C1R who is in Bengali.

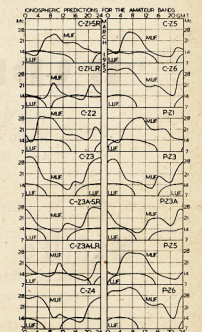
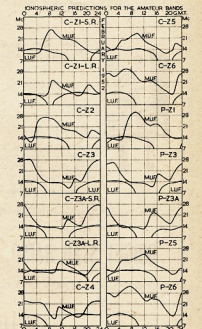
Those I heard breaking the gentlemen's agreement this month took a bit of a hammering. Very heavy c.w. activity suddenly appeared on their frequency for the duration of their transmissions. K4V4A heard 21 bands to a VK3 working a VK4, the VK3 being 86 over there, until he was cut to pieces.

Well that's the old gang, so my thought for the month is "Unless you want to go no more trying to get rid of chirp in a v.f.o., be very chary about using slug tuning in the osc. grid coil. I found out after hours on hours of trying.

Last month I wished everybody the season's greetings, but missed out in the issue, so once again good hunting for 1962.

A few strange calls are appearing on the band so possibly this list will help identify some of them:—

British Col.	4PA-4PZ	Norway	3YA-3YZ
onies	4PA-4PZ	Peru	4TA-4TZ
Canada	3PA-3PZ	Philippine	4DA-4DZ
China	3HA-3UZ	Poland	3ZA-3ZZ
India	3GA-3GZ	San Marino	8AA-8AZ
French Col.		U.S.S.R.	4JA-4JZ
onies	3YA-3YZ	United Nat.	
Haiti	4YA-4VZ	U.S.S.R.	4UA-4UZ
India	4AA-4AZ	Venezuela	4MA-4MZ
Monaco	3AA-3AZ	Yemen	4WA-4WZ
Morocco	3CA-3CZ	Yugoslavia	4NA-4NZ
Nepal	8NA-8NZ		



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18th A.R.R.L. INTERNATIONAL DX COMPETITION

Phone: February 1-3 and February 15-17.

C.W.: February 29-March 2 and March 14-16

It's time again to ready your station for the A.R.R.L. International DX Competition, to be held in February and March of this year.

As usual, special certificate awards are offered to the top single-operator phone and c.w. scorer in each country and A.R.R.L. section. If you're new to the DX Contest, it won't take you long to catch on. During the contest period, stations outside of the U.S. and Canada will call "CQ WVE" or "CQ TEST" and will exchange numbers as shown in the sample elsewhere on this page. If the input is 100 watts, your number is 100. If you run only 75 watts, use the number 075. If your input is different on different bands, change the number to approximate the input figure, but don't bother about 0.1 per cent. accuracy on any band—the usual approximation is adequate.

In the telegraph section, only c.w.-c.w. contacts count. Crossband contacts may not be counted.

F. Exchanges: Each operator will use three figures to represent the approximate transmitter power input. C.w. contestants will exchange six-figure numbers, each consisting of an RST report plus the three "power" numbers. (Examples are given in the sample log.) Phone contestants will exchange five-figure numbers, each consisting of a Readability-Strength report plus the three "power" numbers. If the input power varies considerably on different bands, the "power" number should be changed accordingly.

8. Scoring: (a) Points: 1 point is earned by a W (K) or VE/VO station upon receiving acknowledgment of a number sent, and 2 points are earned by any other station upon receiving acknowledgment of a number sent, and 1 point upon acknowledging a number received.

(b) Final Score: W (K) and VE/VO stations multiply total points earned under Rule 8(a) by the number of countries worked on one band plus the number of countries worked on each other band. All other stations multiply total points earned under Rule 8(a) by the sum of the number of W (K) and VE/VO licensing areas worked on one band plus the number of W (K) and VE/VO licensing areas worked on each other band.

Countries will be those on the A.R.R.L. Countries List. There are 10 licensing areas: 10 in the United States, 9 in Canada (VO, VE1-VE9).

9. Repeat Contacts: The same station may be worked again for additional points if the contact is made on a different frequency band. The same station may be worked again on the same band if the complete exchange for a total of three points was not made during the original contact on that band.

10. Quotas: The maximum number of points per country per band which may be earned by W (K) stations in the c.w. section is 12, and contacts made on the same band with the same country after the quota is filled will not count. Thus complete exchanges with four stations in one country on one band fill the band quota for that country. The maximum number of points per country per band which may be earned by VE/VO stations in the c.w. section is 18, and contacts made on the same band with the same country after the quota is filled will not count. Exchanges with six stations in one country on one band are permitted Canadian participants. There is no quota for stations in the c.w. section outside of the U.S. and Canada. There is no quota for any station in the phone section.

11. Reporting: Contest work must be reported as shown in the sample form. Each entry must include the signed statement as shown in that example. Contest reports must be mailed no later than 1800 April 1, 1958, to the "QST" listing and awards. All DX Contest reports become the property of the American

Radio Relay League. No contest reports can be returned.

12. Awards: To document the performance of participants in the Eighteenth A.R.R.L. International DX Competition, a full report will be carried in "QST". In addition, special recognition will be made as follows:—

(a) A certificate will be awarded to the high scoring single-operator phone and to the high scoring single-operator c.w. entrant in each country (as shown in the A.R.R.L. Countries List) and in each of the 72 U.S. and Canadian A.R.R.L. sections from which valid entries are received. In addition, a certificate will be awarded to the high scoring multiple-operator station in each section or country from which three or more valid multiple-operator entries are received.

(b) A suitable certificate will be awarded to the operator making the highest single-operator phone score in each A.R.R.L.-affiliated club, provided the club secretary submits a listing of a minimum of three phone entries by bona fide resident members of such club, and provided further that these scores are confirmed by receipt at A.R.R.L. headquarters of the individual contest logs from such members. The highest single-operator c.w. scorer in each club will be awarded a certificate under the same conditions.

(c) A.R.R.L. will award a gavel to the affiliate submitting the greatest aggregate phone and c.w. score by bona fide resident club members, whether single- or multiple-operator entries, provided such scores are confirmed by receipt at A.R.R.L. headquarters of the individual contest logs from such members.

13. Judges: All entries will be passed upon by the A.R.R.L. Award Committee whose decisions will be final. The Committee will void or adjust entries as its interpretation of these rules may require.

14. Disqualifications: Off-frequency operation (as confirmed by a single F.C.C. citation or advisory notice or two A.R.R.L. accredited club measurements) will disqualify. Low lone reports in logs will also be considered by the A.R.R.L. Award Committee as grounds for disqualification.

SUMMARY, 18th A.R.R.L. INTERNATIONAL DX COMPETITION

Entry Call Country
(C.W. or Phone)

Name Address
Transmitter Tubes
Receiver Antenna(e)
(Logs from foreign countries show number of U.S.A. and Canadian call areas worked.)

Bands	3.5 Mc.	7 Mc.	14 Mc.	27 Mc.	28 Mc.	Total
No. Ctrs. QSOed	1	4	3	8		
Number of Contacts						15
No. of Different Countries Worked						
No. of Hours of Station Operation						
Asst. Person(s): Name(s) or Call(s)						
45 (Points) x 8 (Multiplier) equals						360 Final Score
I certify, on my honour, that I have observed all competition rules as well as all regulations established for Amateur Radio in my country, and that my report is correct and true to the best of my belief. I agree to be bound by the decisions of the A.R.R.L. Award Committee.						
Operator's Signature						
* Figure in this box is multiplier.						

Explanation of DX Contest Exchanges

Exchanges	RST Report Stat'n Wk'd	3-Digit No. rep. Power Input
Sample (c.w.)	579	150
Sample (phone)	87	500

RULES

1. Eligibility: Amateurs operating fixed Amateur Stations in any and all parts of the world are invited to participate.

2. Object: Amateurs in the continental U.S. and Canada will try to work as many Amateur Stations in other parts of the world as possible under the rules and during the contest periods.

3. Conditions of Entry: Each entrant agrees to be bound by the provisions of this announcement, the regulations of his licensing authority, and the decisions of the A.R.R.L. Award Committee.

4. Entry Classifications: Entry may be made in either the phone or c.w. sections; c.w. scores are independent of phone scores. Entries will be further classified as single- or multiple-operator stations. Single-operator stations are those at which one person performs all the operating functions. Multiple-operator stations are those obtaining assistance, such as from "spotting" or relief operators, or in keeping the station log and records. A special phone listing is available for those entrants whose work is exclusively in the 10 and/or 11 metre bands.

5. Contest Periods: There are four week-ends each 48 hours long: two for phone work and two for c.w. The phone sections start at 2400 G.C.T. Friday, Feb. 1, and Friday, Feb. 15; ends 2400 G.C.T. Sunday, Feb. 3, and Sunday, Feb. 17. The c.w. sections start at 2400 G.C.T. Friday, Feb. 29, and Friday, March 14; ends 2400 G.C.T. Sunday, March 2, and Sunday, March 16.

6. Valid Contacts: In the phone section, all claimed credits must be made voice-to-voice.

LOG, 18th A.R.R.L. INTERNATIONAL DX COMPETITION

Sheet 1 of 1. Call A.R.R.L. Section or Country

Date and Time	Station Worked	Country	Record of New Countries for Each Band					Serial Numbers		Points
			3.5	7	14	27	28	Sent	Received	
Feb. 2, 0000 GCT	VPFE	Bermuda			1			56375	57080	3
Feb. 3, 1300	PA0GN	Netherlands					1	58375	47075	3
1306	GGCL	England					2	58375	46150	3
1345	PA0RA	Netherlands					2	56375	39080	3
2030	L107AZ	Argentina					3	58375	57750	3
2110	VPWX	Bermuda					3	57500	58650	3
Feb. 16, 1020	ZLIMR	New Zealand						58500	58075	3
1028	VK4BR	Australia		1				47050	46100	3
1105	VK3RA	Australia		1				46550	45100	3
1401	PA0LQ	Netherlands						45375	57100	3
Feb. 17, 0625	TF3EA	Iceland			3			57500	57050	3
1245	GZMI	England					3	56375	46125	2
1255	GSKT	England					3	57375	57100	1
1350	GZMI	England					3	48375	35100	3
1430	GGBA	England					4	58500	58500	3
2329	KZ5AW	Canal Zone								

Sample of report form that must be used by foreign c.w. and all phone participants.

FEDERAL, QSL, and DIVISIONAL NOTES

Federal President: G. GLOVER (VK3AG); Federal Secretary: G. M. HULL (VK3ZB); Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

President: John Moyle, VK1JU.
Secretary: David H. Duff (VK1EO), Box 1734 G.P.O., Sydney.
Meeting Night: Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.
Divisional Sub-Editor: Don B. Knock, VK2NO, 43 Yankoo Avenue, Waverley, Sydney.
Zone Correspondents: North Coast and Tablelands: Joe Hansen, VK2AHZ, Bryan Ave., West Kempsey; Newcastle: Ron McD., Stuart, VK2ASJ, 88 Dumbur St., Stockton; Cessfields and Lakes: Harry Hawkins, VK2AHZ, 88 Dumbur St., Cessnock; Western: W. H. Sitt, VK3WH, Camblawa, Forbes; South Coast and Southern: Roy Raynor VK2DO, 42 Pettit St., Yass; Eastern Suburbs: Don Knock, VK2NO, 43 Yankoo Ave., Waverley; Northern Suburbs: Harry Powell, VK2APY, Russell Ave., Wahroonga; Glen: CHA Loyle, VK3YK, 84 Carlton Cres., Kogarah Bay.

VICTORIA

President: G. S. C. Semmens, VK3GS.
Assistant Secretary: C. Gibson (VK3FO).

FEDERAL

News is scarce this month: Federal Executive "shut up shop" for the holidays and so, apparently, did all other societies for there was practically no overruns making coming in from which to glean interesting Amateur information.
However, Convention time is coming around again for which many members from the Divisions will be held in Sydney during Easter this year and an extra good agenda is looked for to compensate the higher costs of holding it there. There is your chance to bring up that matter you've always wanted to; your motion will be sure to find its way to your Federal Councilor can still reach F.E. in time. But make it good—something really constructive and worthwhile to Amateur Radio as a whole.

LAST YEAR'S CONVENTION

In conformity with the policy of the Federal Council of the W.A.A. action taken by F.E. on the agenda from the 1951 Annual Federal Convention is published herewith for the information of members:—

- Item 1: Agreed at the Convention that the policy book could be the situation.
- Item 2: Entered in Federal policy book and noted for 1952 Convention.
- Item 3: Entered in Federal policy book.
- Item 4: Greater publicity given to v.h.f. contests to solicit more interest.
- Item 5: Withdrawn by Queensland delegate at Convention.
- Item 6: Motion lost.
- Item 7: Context of editorial, July, 1951, "Amateur Radio" Matter referred to and in the hands of the P.M.G.'s Department.
- Item 8: Arrangements being proceeded with for 1952 Convention.
- Item 9: Clarified at Convention.
- Item 10: Entered in Federal policy book and notified to Divisions.
- Item 11: Motion lost.
- Item 12: Entered in Federal policy book, notified to Divisions and included as first agenda item for 1952 Convention.
- Item 12a: VK5RT determined to be the rightful recipient of the W.A.S. Australia 150 Mc. Trophy and cheque for the sum of £5/- forwarded to the South Australian Division.
- Item 13: All Divisional Presidents requested to include events of historical nature in annual reports and forward a copy to F.E. Divisions asked to co-operate by obtaining historical records from "old timers" in respective States. Some records on hand being co-related by Federal Vice-President.
- Item 14: Printing pending requirements of Divisions after first using balance of individual State forms now on hand.
- Item 15: Submitted to P.M.G.'s Department for information. I.R.U. notified. Published elsewhere this issue of "Amateur Radio."
- Item 16: Divisions requested to co-operate by appointing Publicity Officer. Matter further

Administrative Secretary: Mrs. S. May, Law Court Chambers, 191 Queen St., Melbourne.
Meeting Night: First Wednesday of each month at the Radio School, Melb. Technical College.
Zone Correspondents: Western: C. G. Waring, VK3YV, 12 Skene St., Stawell; South Western: K. O'Horne, VK3AKH, Killgrew, Westmore; North Eastern: K. Tennant, VK3JC, 36 Wilson Ave., Tatura; Far North West: M. Folie, VK3GZ, 101 Lemon Ave., Mildura; Eastern: H. G. Keen, VK3AKK, Timbarra; North Western: C. Case, VK3ACE, Cummingham Ave., Birchlip.

QUEENSLAND

President: J. H. Farrell, VK4WJ.
Secretary: J. F. Pickles, VK4FP, Box 638J, G.P.O., Brisbane.
Meeting Night: Third Friday in each month at the I.R.E. Rooms, Wickham St., Valley.
Divisional Sub-Editor: Clive J. Cooke, VK4CC, Kurun Street, Chermiside, Brisbane.

SOUTH AUSTRALIA

President: E. A. Barber, VK5MD.
Secretary: G. M. Bowen, VK5XU, Box 1234K, G.P.O., Adelaide.

- dealt with by editorials and correspondence. Subject one for constant reminder where and when necessary or possible.
- Item 17: Refer F.E. notes, January "A.R." 1952. P.M.G.'s Department approached and matter discussed. Further action pending results of meetings already convened between F.E. and Joint Services Committee.
- Item 18: Editor of "Amateur Radio" notified. Delegates discussed matter with Editor at Convention. Item entered in Federal policy book.
- Item 19: Published August and September "Amateur Radio" in conformity with Federal Constitution, and forwarded to Divisions for vote. Further action pending.
- Item 20 and 20a: Original amendments drafted by Divisions. Subsequent amendments drafted in and final draft forwarded to all Divisions for vote. As at this date VK3, VK4, VK5 and VK7 accepted. VK4 partial and VK5 VK7 pending result of members' vote. Further action pending.
- Item 21: Item lapsed for want of seconder.
- Item 22: Item withdrawn by Queensland delegate.
- Item 23: Item withdrawn by Queensland delegate.
- Item 24: Matter clarified at Convention. Divisions requested to continue with reports. Further action pending.
- Item 25: Request refused by P.M.G.'s Department. Main reason given to be representation from National Committee for Protection of Citizens Rights during war years.
- Item 26: Immediate agreement refused, but the Department agreed to obtain details of New Zealand system and discuss the matter further. Action pending.
- Item 27: Sub-Committee co-opted from Queensland Division. Further suggestions forwarded to Divisions for action pending.
- Item 28: Motion lost.
- Item 29: Matter discussed at Convention.
- Item 30: Draft prepared. Further action pending financial position improving. Amendment to rules delayed until new form in publication.
- Item 31: Motion lapsed for want of seconder.
- Item 32 and 33: New South Wales Division Contest Committee co-opted to function as Federal Contest Committee for the year 1952. Committee functioned and conducted contests.

W.A.A. ACTIVITIES CALENDAR

Feb. 1-3 and 15-17: C.W. Section of 18th A.R.L.I. International DX Comp.
Feb. 15: Convention motions from Divisions due in 10 a.m.
Feb. 23: Convention per capita due with F.E.; end of fiscal year of Divisions.
Feb. 29-Mar. 2 and Mar. 16-16: Phone Section of 18th A.R.L.I. International DX Comp.

Meeting Night: Second Tuesday of each month at 17 Wymouth St., Adelaide.
Divisional Sub-Editor: W. W. Parsons, VK5PS, 10 Victoria Avenue, Rose Park.

WESTERN AUSTRALIA

President: J. Campbell-Watson, VK3JW.
Secretary: L. B. Lang, Box N1002, G.P.O., Perth, W.A.
Meeting Place: Perth Technical College Annex, Mounts Bay Road, Perth.
Meeting Night: Second Monday of each month.
Divisional Sub-Editor: R. H. Atkinson, VK6WZ, Box 127, Geraldton, W.A.

TASMANIA

President: R. O'May, VK7OM.
Secretary: I. W. Edwards, VK7LE, Box 271B, G.P.O., Hobart.
Meeting Night: First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.
Divisional Sub-Editor: S. Excell, VK7SJ, 77 Mole St., Hobart, Tasmania.
Zone Correspondents: Northern: C. A. Cullinan, VK7XW, 12 Montrose Place, Launceston; North Western: R. K. Wilson, 4 Menai St., Burnie, Tasmania.

- Items 34, 35 and 36: Withdrawn by delegates.
- Item 37: Federal Contest Committee advised. Motion rescinded by vote of Federal Council in favour of scoring system used by the A.R.R.L.
- Item 37: Attached to minutes of Convention as per the motion.
- Item 38: Entered in Federal policy book and Divisions notified accordingly. Federal Contest Committee advised of contents changed to incorporate where applicable.
- Item 39: Discussed at Convention.
- Item 40: Printed and forwarded to all Divisions for use in 1951 R.D. Contest. Divisions charged on per capita basis to defray cost. Further action pending financial position. Entered in Federal policy book and Divisions notified accordingly.
- Item 41: Federal Contest Committee advised and R.D. Contest rules amended to incorporate.
- Items 42 and 43: Withdrawn by delegates.
- Item 44: Original motion withdrawn as written as the minutes of the Convention. Necessary equipment purchased and Divisions notified.
- G.B. Item 1 and 1a: Items discussed at Convention. Item 1a entered in Federal policy book. Meetings held with R.A.A.F. Headquarters. Arrangements made for R.A.A.F. personnel to speak at Divisional meetings, etc.
- G.B. Item 2: Meetings held with Taxation authorities. Representations made to Canberra. Matter addressed in editorial. Further action pending.
- G.B. Item 3: Entered in Federal policy book.
- G.B. Item 4: Clarified at Convention.
- G.B. Item 5: Published in August and September "Amateur Radio" in conformity with Federal Constitution, and forwarded to Divisions for vote. Further action pending.
- G.B. Item 6: Item withdrawn by delegate.
- G.B. Item 7: P.M.G. would not accept unless cards were "as classified by the Department." "73 and best wishes" followed by signature of sender constitutes a letter-card. Matter difficult. Further action pending.
- G.B. Item 8: Department would not agree for reasons given last year.
- G.B. Item 9: Equipment purchased and Divisions notified.

FEDERAL VICE-PRESIDENT VISITING

NEW ZEALAND

Federal Vice-President Gordon Weynton, VK3XU, expects to be on a business trip to New Zealand by the time this issue is published. This is an admirable occasion for an Officer of the W.A.A. to pay a goodwill visit to our neighbours. ZL Amateurs and Gordon has signified his willingness to carry with him a letter of introduction to the N.Z.A.R.T. with which he hopes to have the opportunity of officially and personally conveying the good wishes of the members of the W.A.A.

NEW SOUTH WALES

are to the committee, their XYLs and all who worked so hard. It was a grand effort and they must have been gratified with the result.

A recent visitor to local shacks on Casino; Ron on holidays at Stockholm. Some of the holidaymakers are operating portable 40 m. 2AHA putting out beautiful signal with his transceiver from Port Stephens; Harold had visit from 2ANA and Norm took some 2SF along for testing w/c/s for Secretary 2SF has been in the area for a while. North Coast using Various c/s and George's two stage 6V6 rig. Jim 2ZC made his camp at Forster and besides catching fish, rag chewer 40 2UY returned from holidays, but didn't have any portable gear away with him. Geoff 2U used out on Hobart beach race through no fault of his own. OM 2X at Knapford Party but Arch has his rig on ice.

2LV couldn't make it at last moment, better
luck next time Harold. 2XT had few
fans, but a decent number of business
2AXM has the new modulator unit
on 20. 2YS has changed his final 80% from
20 to 25, and term has some plan for
when faulty by-pass line down, so
awaiting new tranny. 2WU doing some
work on 20, and term has some plan for
quiet of late-Fom made Xmu fairly though
2KG enjoyed first QSO for 20 years when Ken
2YU had a QSO, but borrowing
2AAH? 2AAI has some plan for
and Ron now using Command as v.f.o. 2AAM
2YU has some plan for
publicity Merv! Doug 2AD was one of
first to work VK8 on 6mx; nice work OM
2YU has some plan for
some shack work. 2TE has new home well
under way; Bert says QTH will be super for DX.

New Ham in Hunter are 2RC of Denmark
and 2JE of New Lambton. Hope to hear you
two chaps soon. Edgar 2FF has enjoyed recent
visits from 2ZD, 2ZL and 2ZC. I hope Bill
Bill 2PWS hasn't got his perking from Lakeside
QTH yet! At Willmetstown, 2LP has started
building modulator so won't be long ere Len
will be back on air. 2ZG is still at home.
President, 2AFS, has begun re-assembling his
beam for 10 mx. This will be good news for
Bob's sparring partner Eric 2FF who has been
beating him since he was a boy.
40, Harry 2AFA has an eagle eye on 20. "Santa"
2DZ is helping Phil 2ANG with a 3 element
c-beam for 16, and Johnny is thinking of a
new antenna for 20. 2ZB is working on SSB
mode modulation; Allan also has car radio under
construction. 2AMM and family are holidaying
at Nelson Bay. Bill 2MC would like the local
club to have a Christmas party at 20.
OM. Some nice 43 mx phone from 2CN over
holiday period—good show Bert. Please get
report EXY active; Neil helped Max 2ARX get
back on air after a couple of months off.
on 80, 40 and 20. Very pleased to be on again.
Neil completed conversion of his own TA12 too.

Grateful to 2XQ for sending me Maitland news and thanks to 2DG for supply same. John active only for skebs but thinking of trying once again. Keith came on 20 on Xmas Eve and turned two new countries, EAOAB Spanish and UK and MF40B is on 20 on Xmas Eve. Bob came on in Persian Gulf. Nice Xmas present! Col 2VO active on 40 and very happy with new Rx. All pleased that this competent c.w. old-timer on again. 2ANL not heard on lower freq. bands; Joe probably chasing DX on 6. 2CJF here with a lately with a plan to be on 40. Bill plans a new freq. meter. 2IS having fun; Ivan recuperating from Xmas. emission testing by playing recorded music—soothing type!

Notice of Meeting.—The March meeting will be held on Friday, 14th, so roll up and have an enjoyable evening. If you have a young cobbler interested in radio, bring him along too.

COALFIELDS AND LAKES

The holiday season has taken its toll on Hamble activity in the zone, so it seems that everyone has been busy. The last XMAS party was a package of some good temperature inversion to work through to Sydney and Sutherland on 14 Mc—nice going. Geoff V2V is trying to get a good idea of the XMAS party package. A number of building projects and also to work some DX on six. Harry V2W came out of hiding and found the rig would still be suitable to hear the DX. The 2000 WATT 2ADT hidden in the Urunga and working portable on a Type A when fishing permits. The Kurri boys 2KFF and 2KZ are working on the 2000 WATT 2ADT. The boys are doing his best not to miss anything on 6—be working 21C on that band. 2ARV on 40 at week-ends from home and has a portable on 40. The 2000 WATT 2ADT is still working and managed to get down to Newcastle for the Xmas party and all had a thoroughly enjoyable time. Congratulations to the organisers.

The Christmas meeting of the N.S.W. Division of the W.I.A. was held at Science House on Friday, 21st Dec., with the President (John Moyle) occupying the chair. It was preceded by a special meeting convened for the purpose of declaring the ballot adopting the new uniform.

constitution. There were only five dissentient votes, and as the other States had already adopted it, the new constitution will now become law throughout the Institute.

After the President's monthly round-up of doings and events, a last opportunity of submitting agenda items for the Federal Convention was availed of by a couple of members.

A recording of Christmas messages from members of Federal Executive was then played (most of it, that is), followed by a microgroove recording of an Amateur contact which had been "got at" and amusingly doctored with suitable (or unsuitable) insertions.

The main business of the meeting was a full length feature film which was enjoyed by the members. A special Christmas feature was supper—over which a good Ham get-together was had.

Here's hoping that everyone will have had a good time at the 1952 Hamfest which will be over by the time this goes into print.

For those interested in working a new country (we hope!) Dr. Rob Black (VK2QZ) has now postponed his departure for the Trobriand Islands until February. He will be taking low power portable equipment and intends, I believe, to work mostly on 7 Mc.

NOETH COAST AND TABLELANDS

As usual, we commence the zone notes with a motor accident. Jack ZADN, whilst travelling on the Pacific Highway, was involved in a pile-up of fires in the car lane. You know you go fast Jack but that's a bit hot! Welcome to a new Amn-aurer, Merv Finlay, VIKATD, who hails from the local area. He's a local 2APs. Another prospective call will be heard from Port Macquarie, the owner of a 1970 Holden, who's been invited to join the N.C. gang Arthur. Geoff Bailey, of 2VJ, recently spent a busman's holiday in Kempsey and was a little bit out of his element. He could raise a 2AHA from his home town, Newcastle. Ken 2APB had an 1800 mile motor trip down the Pacific Highway and returned with a 2APB. The 2APB is a local 2APs gang on the Blue Mountains and had a very pleasant spell from watching DC's ploughing

Peter ZPA used to tell of the DX he worked on his three element beam on 2X Mc., but since a recent storm he tells of his two element job! Peter's mother and wife are both in hospital and we all wish them a speedy recovery. Allan ZAC spent his caravan holiday at Urunga recently, enjoying the life of a nomad. It is a fine time. Another, Alan ZASO, visited the big smoke recently, but like the rest of us from the bush was glad to retire from the "bunbun rush". Quite a few of the DX gang are active in the 2X and 3X bands and are working on their latest exponents. Syd ZAPS complete with family was on the North Coast and the gang were pleased to see him. Unfortunately I was out when Tom ZPD called in from Brisbane.

All being well, ZAHN will operate portable during the holidays and hope to work many of the wedding bells. I understand he will be tolling for Ken ZAPB and Audrey about next June, so now's the time to give him the usual advice chaps. Doug ZSH burned up rolls of film in his new camera when he visited Kempsey and your scribe's place. Even photographed the family and the rig. How you say? Dad had a pleasant stay Doug. ZAHN will be on holidays in January so here is hoping I contact you.

HUNTER BRANCH

As everyone knows the Xmas Social was a huge success. On behalf of the boys and their families may I just say how grateful we all

SUBSCRIPTIONS

● Please pay your Subscriptions PROMPTLY when due. Failure to do so may result in the loss of valuable issues of "Amateur Radio." High costs of production make it necessary to limit the number of extra copies printed each month.

Snow Harrison, VK3CN, ex-VK7CH, has at long last shaken the dust of Victoria from his shoes and returned to his native isle. Seems like yesterday that Snow first came to Shepparton but he assures me it is 17 years back. He anticipates no trouble in securing his old VK7 call sign, but just when he will get back on the air is a little obscure at present.

A budget news from Ron Mould, VK6FSM, now at Madang, T.N.G., was received just a day too late to include in the March 1980 QTH around Xmas time with a re-built 'EAG' Pierce coil, 120V, 10A, 50Hz transformer, 125W final, modulated 80% AIB2 with voice compression; antenna, long wire (four wavelengths) and a 100m mast.

He says "With re-building, and newly married for six months, have been dating a lovely girl, who lives in Chuathuchin, 32 miles from Madang - VK6KR. The Chugachuan people live in the Territory and the first VK6QR, also a Chugachuan, has been working on his well-earned holiday in Melbourne. Other Ham is Carl Spears, an American with a 700W rig, 100m mast and 100m long wire.

329 in the final. Ron is very fortunate in that his XYL is genuinely interested in Ham Radio.

The A.R.A. of Las Villas (Cuba) again draws attention to the "Worked Cuba Award." Details of this diploma were published in a past issue and briefly requires a contact with a station in seven of the eight radio districts of Cuba. Further details may be had from this Bureau.

Felix Franchette, FK8A, expects to leave Noumea for holidays in France towards the end of February. He has asked for a license in France so that he may continue to contact his many VK friends. At the expiration of his 12 months furlough, there is a possibility he may again return to New Caledonia.

During the latter portion of 1950 an Eastern State QSL Bureau erroneously sent 170 cards for VK6 to the R.S.G.B. They were returned to the Federal Bureau in November, 1951, and went forward to their correct destination on the day they came back from England. This may explain to any VK6 station who notices the unusual delay on the cards. However just to prove that all bureaux make mistakes, the R.S.G.B. included with the return of the above cards, some 65 cards from G stations to Russian addressees!!!

F18KVA, 106L, gives a QSL address with a request for cards to be placed in a plain envelope and any reference to his call sign omitted. This address may be had on application to the QSL Manager. If the old fox down Parkdale way really desires a card from F18, he should contact F18KVA in preference to the numerous bodgies he has fallen for in the past.

It is reported that examinations were conducted in Japan during the latter half of 1951 for the purpose of preparing to re-issue Amateur licences during 1952.

Diploma of the Provinces of France (D.P.F.). This new award has recently been made available by the R.E.F. and is open to every licensed Amateur regardless of affiliation with an organisation associated with the I.A.R.U. The rules as kindly translated by Felix, FK3AC.

(1) The D.P.F. is available for contacts made since January 1, 1951. Separate certificates being awarded for c.w. and phone. Any or all of the Amateur bands may be used. For frequency bands 28 Mc. and higher exclusively, either phone or c.w. can be employed. The same stations may claim both certificates.

(3) All claims for the award must be made direct to the R.E.F., using the address R.E.F., D.F.F. 2 rue Marceau, Montreuil sur Seine (Seine), France, and must include a letter of application and the sixteen QSL cards required, together with sufficient postage (by means of International Reply Coupons) to finance the return of the certificate together with the certificate. Sufficient postage enclosed with these documents will be returned by registered post.

The 17 provinces are: Nord, Hedebrande, Normandie, Bretagne, Touraine, Champagne, Bourgogne, Alsacelorraine, Franche-comte, Alpes, Languedoc, Provence, Auvergne, Poitou, Gascongne, Corse, Villedeparis.

Clarification of any point not shown above may be had from this Bureau.

SOUTH COAST AND SOUTHERN

During this month we have had a few visitors through the village. Jeff 2BQ, who had been on holidays at Narooma, stopped to say hello and yarn about Ham Radio. 2BQ/P was active from the seaside and made many contacts. Peter 2APP also called and had a contact with 2BQ. The car developed a fault and Peter and John had to spend a night at Mittagong. Rod 2ACU was next visitor, he and his family and mother stopped overnight at Yass before moving on to Adelaide. Cecil 2ALS has been away in Sydney and spent nearly two weeks at Manly. Except for a brief visit to ZWF surfing was the main attraction. Ron 2FM has plenty of gear in working condition and the grid dip osc. is quite a nice and effective piece of gear. Recently constructed an 811 but the 144 Mc. beam appears to have seen better days.

Les 2PI is putting out a fine signal, we understand that one of his eyes is becoming affected from the shock of 10,000 volts he received some time ago. We all hope the effects are only of a temporary nature. 2TV and 2ASB both have been active on 40 and Bob 2TV is building some 144 gear. No doubt another beam will be on the top of the 10 mx job. 2AEL Les certainly puts out a nice signal, it's very effective when the band is noisy. 2RS and 2RM have not been so active of late, although 2RS seems always to be working VK3 stations.

Down the South Coast 2DY, 2AMW and 2ASF active. 2AUB occasionally heard at 40. Lindsay 2ON has packed up at Dapto and left for England where he will do a two-year course—Ham Radio we believe is out until his return—the best of luck Lindsay.

VICTORIA

SOUTH WESTERN ZONE

Things have been pretty quiet this month on the air and as far as I'm concerned, in occupation, extremely busy. Having made my excuses for the absence of S.W. Zone news in January issue and for the scarcity in this, I shall endeavour now to piece together a few lines for the second magazine in 1962. The only time I have heard 3HG this month was on the only zone hook-up which I was able to participate; Neil has been flat out on seasonal farm operations—seems quite happy with the a.c. on the rig. 3AGD and 3II pretty quiet of late and

not much to report this month from Dunkeld. Nothing heard from Warrnambool area nor from Geelong. 3ADN made a brief appearance on 80 on New Year's eve and wishes the zone a happy and prosperous New Year.

3ASU and family spent their annual vacation at Wye River surfing and fishing; hope there wasn't too many "dampers" Jack. I did hear that 3HW was going down there too. What's this I hear about YL trouble Johnny? 3IQ, of Ararat, has been on the air a little lately and by all accounts had a whole of a time on the round Australia by car trip last year. Kevin is talking about crocodile shooting on the Gulf of Carpentaria this year—might be with him too. Incidentally, 3AKR's New Year resolution for 1962 is for better and more consistent zone news, 11, 73 and the best for 1962 chaps.

NORTH EASTERN ZONE

3ALE has a new beam motor working, a new antenna to go up as soon as he can get away from the garden. 3IJ still trying to get poles up along with 3CI who has 10 and 6 mx beams to erect. Looks like the gang, 3AFP, 3UI, and 3JC, will have to go a touring and help the boys. 3IJ playing with 6 mx converter in between contacts. 3IJ enjoying himself immensely on 8 mx one evening. 3KR has another convert to the ranks, best wishes Rex.

Zone hook-up conditions not so good. 3IZ heard VK9 on 6 mx, didn't think anything of it. How could you Peter, the only one on 6 mx in existence so I'm told. 3KR's Rx on the blink, hope you found the fault Ken. Howard 3YV still managing to get out for a few QSOs every Saturday and Sunday. Howard has "Radio," "CQ," and "QST" magazines, yours for the asking if there is any left. 3AT looked in on hook-up for a few minutes, Alec has been working them on 6 mx.

3UI had a visitor from VK5. 3JC still managing a little DX. 3FD now on phone, enough said. Andy how could you? 3DW ex-zone member, is now working 2 mx 144. 3JF also on 6 and 2 mx. 3IJ and 3JC visited 3UI for Xmas evening, many broached 80's were left in the wake of a very pleasant evening. 3CI working very hard at a back-to-Nagambie week, finished up in bed.

EASTERN ZONE

Well, well, it's happened at last, 3AHK has gone walkabout and left his poor old assistant

to do the notes. Not a great deal to report this month, however will see what we can do. 3PR working on a new rig, looking forward to hearing it in action. Ron, 3ALA hasn't got that modulator finished yet, when is it going to be finished Ted? The 2001? Speaking of the year 2001, 3AHK has been talking about a new rig for a long time now.

Good roll ups on 3650 Kc. lately, keep it up boys. 3WE complaining about poor numbers on the emergency network these days. Go to it chaps. 10.30 a.m. Sunday, most important at this time of the year you know. Happy to report that Mrs. JWE is well and strong once again. 3SS on 20 mx for the first time since 1938, good on you David, show Dad how to get that DX. 3QZ getting very interested in mobile antennae, it won't be long now.

3IZ and associate John Butterick on seven weeks' holiday, you lucky people! 3TH a big game hunter these days since the flying foxes invaded his orchard. 3AHK still complaining about being overworked. 3ABF working on his radio-controlled aircraft, what about cranking the rig up again Arthur. 3AGF going to VK4. I think he must be trying to get away from the b.e.l., might find plenty of QRN though. 3ANC working on his rig, stick to it Norm, we want to hear you again, soon. 3DI working VK8 on 6 mx, nice work Jim, Glad to hear you back on 3650 Kc. again, what about the rest of the 6 mx gang now.

The Sale Radio Club held a most enjoyable Xmas meeting at the home of 3AHK. Hans and associates travelled up to 60 miles to be present, and believe you me, it was worth it. Bill 3TY gave a most interesting talk on antennae and answered many questions on the subject. Incidentally Bill had his 9000th contact during the month. After Bill's talk there were refreshments, to cheer the inner-man, including a magnificent Xmas cake prepared by Mrs. 3SS. Well so long for now, we'll have Ossie back next month—I hope!

CENTRAL WESTERN ZONE

A Christmas visitor to the zone was pre-war 3TX, of Rupanyup (now 2FK). Tom is back into civilian life now and mainly interested in 144 and 50 Mc. (says you can at least have a decent jam there). While in Stawell he ran a 144 Mc. test from Big Hill in an endeavour to contact Melbourne, n.g. that way, but he

Received 100 p.c. O.K. except name and report... WELL!!!

(That's probably all he told you anyway)

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body realises that with rising costs of everything an increase in fees is unavoidable, they also realise that the Council strive to keep expenses down to a minimum, and also that the full and complete membership is the best way to make it all to the good because in time the associates become full members and then do their share towards carrying the younger members, but any increase in fees is most certainly not to us all. However the next meeting should tell the story, although whatever the increase will be, it will be very much needed on the grindstone for some time to come. Unfortunately we have no "milking cow" to go to when we need any financial help.

WESTERN AUSTRALIA

Owing to the need for January's notes to leave VK6 earlier than usual, there seems a lot to catch up on in my little "scandal book". First, a welcome to Norm 6LT of Albany, who made his first QSO appearance on the weekend, Nov. 24-25. He uses a TA12D and is also interested in 50 Mc. gear. Nice to hear you are back in Albany. However, as I had decided the ge-gees weren't what they used to be, and far from winning him an occasional 807, wouldn't it be an idea to tell him that I would like to report that Lou has now given up giving up smoking! Someone in the house left some "weed" lying around where the OM was smoking, and he did it.

Nice to hear 6MG on now and again; heard you working 6AS recently Mac, but where was Alec? On 14 Mc—or on a dummy antenna?—and another 6MG. How about 6MG? I'd like a short essay from you on what it feels like to leave a.c. and go and live in a d.c. town. If I feel we are coming on like you, I would like a similar move, please type your essay on asbestos paper and have the XYL censor it before forwarding—remember, all my associates are "retired young gentlemen".

6MB has been heard at odd intervals during recent months and gets out well on 7 Mc. with low power to a Type A Mk. II. Since I took over the duties of this column, I have had been one postcard, Russian a.w.l. card, letter, cablegram, or other communication from any VK6—so my list of sources of news is small. One bloke, however, has a QSO with me one night per kind favour of George Rex. There was I trying to keep a.c. rectified, and Barry, who is a rang and it turned out to be trunks with a call from Telegraphs Office, Perth; subject, one weather telegram. I told him that I was a rang and he told me the voice that reads the doings to me is usually that of a charming young female—this time it was a male, and it came from a bell—and I was right—it WAS Eric GRB. Tells me he has a new house and included in the plans is one only shack in the backyard. Eric's a rang and I like this record. Barry 6BR, is another who, like 6AS, has traded the big city and its a.c. for a country life. Barry, however, has now moved one step further in degradation—he's given up telegraph operating in favour of working in my opposition. Barry, old son, the technical equipment (the hand-by) may be top—but boy, those programmes! Hope you have the gear assembled and working in Geraldton.

Ted 6WH has discovered something to make the technical giants of our day and age turn green with envy. He has discovered a way to build a.c. valve types, without soldering circuits, and without altering one wire—he uses a primus. Ted, that fluid that oozes out isn't wax—it's that mysterious stuff called DX.

64 Dollar Question: Which VK6 has, as his theme song, "Agony"? Strictly Riddle: 6AG wants to hear those 7 Mc. broadcasting stations a little better so he has aimed a vee beam of 1000 watt wave-lengths at them. 6FW, having been a rang, the temper out of the bed springs with r.f. and having also (it is rumoured) melted the XYL's hair, has been a rang of com in the past, but last turned orthodox and is now using a transmitting antenna.

64 Dollar Question: 1951: Country-versus-City QSO Day, Day 9. Somebody had blundered!

Institute Dogs: At the December meeting 6HL and 6GH gave a most interesting and instructive demonstration of the grid dip oscillator at work. They showed us how to use it so that the theory about a half-wave at resonant frequency presenting a short circuit, was right on the spot. They also showed us how to use an absorption wavemeter circuit and demonstrated that it didn't alter the setting of said wavemeter when the beam was moved. One of the visiting notes at the meeting however was the visiting Irishman who said it was all a fake and there was no such leprechaun as Gnome O'Grady.

The January meeting included a lecture by Mr. Hutton, exc U.K., where he worked on

redar and t.v. Mr. Hutton gave a most illuminating talk on modern t.v. Rx design and was closely followed by all present. A suggestion has been put forward that a "Zone 29 Award" be instituted for those who have been on the air will be accepted and put into force. A new Advisory Committee will have been formed and you and I, membership not known at date of writing.

Who was the bright VK6 who tried to talk a lot of chaps into coming on just after the beginning of 1952—and then failed to turn up? All right, all right! My head is hung! 6RT, however, who was in Geraldton at the time, mentioned that the following present: 7BK, 7AM, 7BQ, 7GM, 7TE, 7LK, 7DB, 7BR, 7PF, 7HY, 7KW and Associates Percy Crawford, Rex Summer, Graeme Nicholls, Mark Smith, Jim Thompson and Henry Solomon.

During the evening the Chairman, on behalf of members, presented TBQ with a writing set for use during his trip, and in response he suitably and again impressed on members the need to get more full members in order that the zone can carry on in the future. When these notes appear, Len will be about half way to Britain.

A welcome back was given to TPF who has returned to civilisation. 7AK, who was on board the ship, had been invited to attend the Dinner but he was able to look up some of the Launceston Amateurs before returning to work. Another visitor was 7BK who came up on a job of work to assist the R.I. TBQ kept them up until about 2.45 a.m. so on the next night TBQ let them off early (about 12.30) and Brian was sitting for a few first class Commercial Certificate the day after. Wouldn't it? And here's another wouldn't it. TBQ walked out of the shack for a few minutes one night and during that time Percy Crawford, who was also listening on 6 m.c., XYL'd 7BK. Weak through all good strength, so Col missed out on a VK6-VLF contact!

TASMANIA

Saw 7KX the other day, busily engaged in procuring equipment for a three element rotary beam which Don hopes will be ready in time for the taking. He's getting a lot of help from Field Day Contest which was to be held on the 27th of January. Seems strange having a portable three element beam but according to Don this is just the thing and can be easily constructed from ordinary conduit without much effort. Believe TBH will be accompanying Don to give him a hand. Another entrant for this Contest will most probably be the Army Signal Radio Club, 7SR, under the watchful eye of one of the old hands, 7KX. 7KX from the south will be TOM using his Type 3 Mark II, which performs very well on 80 and 40. Rather disappointing feature in my opinion is the heavy loss of DX that has been made. A quite amount of DX that normally could be worked otherwise.

Talking of DX, rather interesting to hear the amount of DX that has been worked by 7KX with the aid of the new three element rotary beam. A Z85 was the latest contact which you must agree, especially on phone, is not too bad an effort from this area, so keep up the good work Keith. Listened recently to TJD arranging skeds for the 144 Mc. band with TOM and 7KX. TJD has devoted most of his spare time on this particular band and believe a superhet has been constructed especially for this band. v.h.f. heard recently on 144 Mc. in the possibilities of this band, so it looks as though Rupe will be the next to migrate from 20 and join the v.h.f. gang.

Two associates, Ray Calvert and Doug Watson, sat for the A.O.C.P. examination during January and we trust both members are successful in their first effort. Believe our old friend 7KX has just had his now passed the necessary examination and is now waiting on his call sign, so another signal should be shortly heard. A north western member who has been with a very solid signal was TWA who, so far, has concentrated most of his operating to 40 mc. TBH must be contemplating further additional equipment for the shack. He has been collecting quite a parcel of radio equipment, so it seems Brian will be busy for the next week or so. A high quality signal has been heard from TFJ who intends building a Rx to end Rx's, so we hope everything works out OK Ted with this view.

Inactivity from TLL has been attributed to pressure of work although "Doc" what about spending an hour or so now and again on the band. It's a good idea. Heard a few signals. TGB, located in the New Town area, advises he will shortly have a modulator constructed and hopes to be on the air in the future. Ted has been active mostly in the midnight in the past and believe in that time quite a lot of DX has been worked, the band used being 7 Mc. 40 Mc. and 7 Mc. 7KX is now concentrated on caring for his ever increasing fleet of cars and trucks which gives him little time for the radio. However, it is expected which will make the fourth and to think all I can afford is a push bike.

In town for a quick visit prior to Xmas was 7EJ who mentioned he was in the U.K. in the near future, 20 mc. is generally used. Our next lecture is to be given by 7AJ and believe the subject will be to do with tape recording and know how to use it. Heard a few signals. Disappointed to hear from TMY that he intends definitely to give up all activities associated with

Ham Radio and has disposed of most of the radio equipment. It seems the Institute will feel the loss of this member who was very keen on v.h.f. equipment.

NORTHERN TASMANIAN ZONE

Right in the middle of December came the Northern Zone Dinner at W.B.H. and what a roll up of some members! At the festive board looked as though New York's "409" had possession, but after the introduction all round by the Zone President 7RK, it was discovered that the following were present: 7BK, 7AM, 7BQ, 7GM, 7TE, 7LK, 7DB, 7BR, 7PF, 7HY, 7KW and Associates Percy Crawford, Rex Summer, Graeme Nicholls, Mark Smith, Jim Thompson and Henry Solomon.

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NORTH WESTERN ZONE

The January meeting was held on the 4th and eight members were present and our President ruled that matters of anatomy should not be brought up at the meeting. The latest arrival from the North West was 7AK and he hoped that he will become a member of this zone.

The 6 m.c. band is quite open here now with ZLA coming in strength 8-9 and it is reported that 7AB has already worked 40 stations this season. There is much work in hand for the 2 m.c. hook-up, as with the best type of gear to use, the best locations and many other things. 7AB is planning to build a new operating building a tower for many beams and also believe that 7AI is also building a beam for 10 metres.

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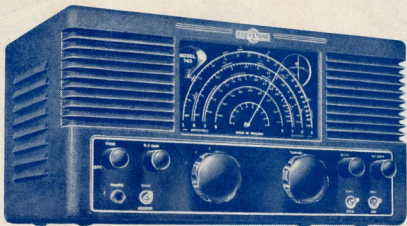
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Stentorian Concentric

DUPLEX

SPEAKERS



10 INCH

The most advanced and efficient "twin" quality speaker Duplex Speaker constitutes the concentric loudspeakers, concentrically mounted . . . each operating diaphragm with its own speech coil gap and magnet, embodying the latest application of the well-known series gap magnet system.

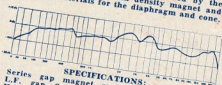


SPECIFICATIONS:

50 to 14,000 c.p.s. series gap magnet of Alcomax 3.
Flux in L.F. gap, 12,000 gauss on 1" pole.
L.F. diaphragm of multi-fibre material, graduated cone formation 10" diameter.
L.F. speech coil impedance, 3 ohms at 1,000 c.p.s.
Flux in H.F. gap 13,000 gauss on 1" pole.
H.F. metal diaphragm, convex formation 10" diameter, mechanically protected and loaded by non-resonant central pressure horn.
H.F. speech coil impedance, 30 ohms at 1,000 c.p.s.
Power handling capacity (both component speakers), 6 watts.
Chassis material, pressure die-cast from Mazak 3, non-magnetic and non-resonant alloy.

12 INCH

This quality loudspeaker is of similar construction to our highly successful 10" Concentric Duplex Loudspeaker and combines exceptional quality with large power handling capacity. This is achieved by the use of a very high flux density magnet and special materials for the diaphragm and cone.



SPECIFICATIONS:

Series gap magnet system of Alcomax 3.
L.F. gap flux density of 14,000 oersteds.
Total magnetic flux 220,000 oersteds.
L.F. speech coil impedance, 15 ohms at 1,000 c.p.s.
H.F. speech coil impedance, 15 ohms at 1,000 c.p.s.
L.F. diaphragm of multi-fibre material, graduated cone formation, 12" diameter.
H.F. metal diaphragm, convex formation 11 1/2" diameter, mechanically protected and loaded by non-resonant central pressure horn.
Cross-over network, with input impedance of 15 ohms, fitted to loudspeaker chassis.
Chassis material, pressure die-cast from Mazak 3 non-magnetic and non-resonant alloy.
Frequency coverage: 30-17,000 c.p.s. with base resonance at 45 c.p.s.
Power handling capacity—15 watts.

J. H. MAGRATH & Co. PTY. LTD.

Sole Australian Agents

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